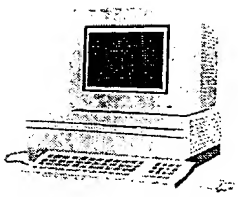
BioTech-Chem Library
Search Results
Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact ***the BioTech-Chem searcher*** who conducted the search ***or contact***:

Mary Hale, Supervisor, 308-4258
CM-1 Room 1E01

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* *(Example: 1610)*
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

  Types of relevant prior art found:
  - ☐ Foreign Patent(s)
  - ☐ Non-Patent Literature
    (journal articles, conference proceedings, new product announcements etc.)
- *Relevant prior art **not found**:*
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Search results were not useful in determining patentability or understanding the invention.

Other Comments:

Drop off completed forms at the **Circulation Desk CM-1,** or send to Mary Hale, **CM1-1E01 or e-mail mary.hale@uspto.gov.**

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 – 703-308-4498
jan.delaval@uspto.gov

```
=> fil reg
FILE 'REGISTRY' ENTERED AT 16:28:26 ON 31 MAR 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   30 MAR 2003  HIGHEST RN 500991-80-0
DICTIONARY FILE UPDATES:  30 MAR 2003  HIGHEST RN 500991-80-0

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> d ide can tot

L113 ANSWER 1 OF 13  REGISTRY  COPYRIGHT 2003 ACS
RN   245750-05-4  REGISTRY
CN   Glutamyltransferase, glutaminylpeptide .gamma.- (Streptoverticillium
     mobaraense pro domain) (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   1: PN: WO0123591 SEQID: 3 claimed protein
CN   Glutamyltransferase, glutaminylpeptide .gamma.-, pro- (Streptomyces
     mobaraensis)
CN   PN: DE19814860 SEQID: 1 claimed protein
CN   Transglutaminase, pro- (Streptoverticillium mobaraense)
FS   PROTEIN SEQUENCE
MF   C194 H300 N56 O74
CI   MAN
SR   CA
LC   STN Files:   CA, CAPLUS

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*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
               2 REFERENCES IN FILE CA (1962 TO DATE)
               2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE   1:  134:291099

REFERENCE   2:  131:283323

L113 ANSWER 2 OF 13  REGISTRY  COPYRIGHT 2003 ACS
RN   143638-61-3  REGISTRY
CN   Glutamyltransferase, glutaminylpeptide .gamma.- (Streptoverticillium clone
     pTV118NcoI) (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   3: PN: WO0123591 SEQID: 5 claimed protein
CN   Glutamyltransferase, glutaminylpeptide .gamma.- (Streptoverticillium)
CN   Glutamyltransferase, glutaminylpeptide .gamma.- (Streptoverticillium
     mobaraense)
CN   Glutamyltransferase, glutaminylpeptide .gamma.- (Streptomyces mobaraensis)
CN   PN: DE19814860 SEQID: 3 claimed protein
CN   Transglutaminase (Streptoverticillium mobaraense)
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CN Transglutaminase (Streptoverticillium strain s-8112) (E.C. 2.3.2.13)
FS PROTEIN SEQUENCE
DR 154174-37-5
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

RELATED SEQUENCES AVAILABLE WITH SEQLINK

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
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7 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 134:291099

REFERENCE 2: 131:283323

REFERENCE 3: 130:109259

REFERENCE 4: 121:128753

REFERENCE 5: 120:209639

REFERENCE 6: 119:154777

REFERENCE 7: 117:229103

L113 ANSWER 3 OF 13 REGISTRY COPYRIGHT 2003 ACS
RN **80146-85-6** REGISTRY
CN Glutamyltransferase, glutaminylpeptide .gamma.- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Activa MP
CN Activa Supercurd
CN Activa TG
CN Activa TG-K
CN Activa TG-M
CN Activa TG-S
CN Activa TG-TI
CN Activa WM
CN Akuthiba TG-S
CN E.C. 2.3.2.13
CN Glutaminylpeptide .gamma.-glutamyltransferase
CN Koshikeep
CN Polyamine transglutaminase
CN PPQ 6117
CN Tissue transglutaminase
CN Transglutaminase
DR 300711-04-0
MF Unspecified
CI MAN
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, EMBASE, MSDS-OHS, PIRA, PROMT, RTECS*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
2701 REFERENCES IN FILE CA (1962 TO DATE)
27 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2712 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:203839

REFERENCE 2: 138:203835

REFERENCE 3: 138:202736

REFERENCE 4: 138:199050

REFERENCE 5: 138:198595

REFERENCE 6: 138:186864

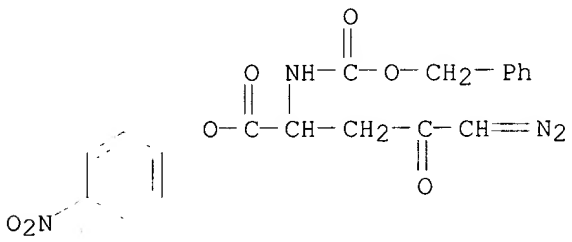
REFERENCE 7: 138:186822

REFERENCE 8: 138:169207

REFERENCE 9: 138:169080

REFERENCE 10: 138:169073

L113 ANSWER 4 OF 13 REGISTRY COPYRIGHT 2003 ACS
RN **74389-76-7** REGISTRY
CN Norvaline, 5-diazo-4-oxo-N-[(phenylmethoxy)carbonyl]-, 4-nitrophenyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C19 H16 N4 O7
LC STN Files: CA, CAPLUS, TOXCENTER



4 REFERENCES IN FILE CA (1962 TO DATE)
4 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:45002

REFERENCE 2: 97:196229

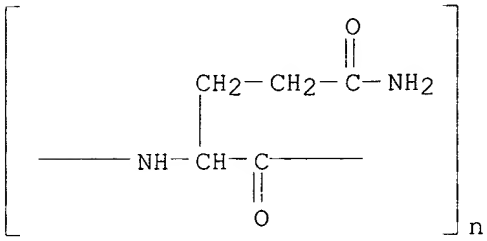
REFERENCE 3: 94:188083

REFERENCE 4: 93:68458

L113 ANSWER 5 OF 13 REGISTRY COPYRIGHT 2003 ACS
RN **69864-43-3** REGISTRY
CN Poly[imino[(1S)-1-(3-amino-3-oxopropyl)-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Poly[imino[1-(3-amino-3-oxopropyl)-2-oxo-1,2-ethanediyl]], (S)-
OTHER NAMES:
CN Poly(glutamine), SRU
CN Poly(L-glutamine), SRU
CN Polyglutamine
DR 26603-78-1
MF (C5 H8 N2 O2)n
CI PMS, COM

PCT Polyamide
LC STN Files: ADISNEWS, AGRICOLA, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CEN, CIN, EMBASE, PIRA, PROMT, TOXCENTER, USPATFULL

RELATED POLYMERS AVAILABLE WITH POLYLINK



194 REFERENCES IN FILE CA (1962 TO DATE)
19 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
194 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:202962

REFERENCE 2: 138:104987

REFERENCE 3: 138:101783

REFERENCE 4: 138:49893

REFERENCE 5: 138:40111

REFERENCE 6: 137:380040

REFERENCE 7: 137:367856

REFERENCE 8: 137:363097

REFERENCE 9: 137:304808

REFERENCE 10: 137:245385

L113 ANSWER 6 OF 13 REGISTRY COPYRIGHT 2003 ACS
RN **26700-71-0** REGISTRY
CN L-Glutamine, homopolymer (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Glutamine, L-, peptides (8CI)
OTHER NAMES:
CN Glutamine homopolymer
CN Poly-L-glutamine
CN Polyglutamine
FS STEREOSEARCH
MF (C5 H10 N2 O3)x
CI PMS, COM
PCT Polyamide, Polyamide formed
LC STN Files: ADISNEWS, AGRICOLA, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CEN, CIN, EMBASE, MEDLINE, PIRA, PROMT, TOXCENTER, USPATFULL

RELATED POLYMERS AVAILABLE WITH POLYLINK

CM 1

CRN 56-85-9
CMF C5 H10 N2 O3

Absolute stereochemistry.

507 REFERENCES IN FILE CA (1962 TO DATE)
36 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
510 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:205047

REFERENCE 2: 138:203263

REFERENCE 3: 138:202962

REFERENCE 4: 138:202958

REFERENCE 5: 138:202937

REFERENCE 6: 138:200516

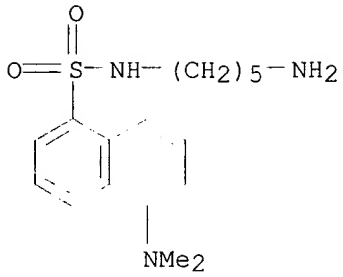
REFERENCE 7: 138:200437

REFERENCE 8: 138:185432

REFERENCE 9: 138:167598

REFERENCE 10: 138:167597

L113 ANSWER 7 OF 13 REGISTRY COPYRIGHT 2003 ACS
RN **10121-91-2** REGISTRY
CN 1-Naphthalenesulfonamide, N-(5-aminopentyl)-5-(dimethylamino)- (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Dansylcadaverine
CN Monodansylcadaverine
CN N-(5-Aminopentyl)-5-dimethylamino-1-naphthalenesulfonamide
FS 3D CONCORD
DR 99473-69-5
MF C17 H25 N3 O2 S
LC STN Files: ADISNEWS, AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, DDFU, DRUGU, EMBASE, MEDLINE, NIOSHTIC, TOXCENTER, USPATFULL, VETU
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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12 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
261 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:122793

REFERENCE 2: 137:245263

REFERENCE 3: 137:105614

REFERENCE 4: 136:337048

REFERENCE 5: 136:66576

REFERENCE 6: 136:1616

REFERENCE 7: 135:343279

REFERENCE 8: 135:177036

REFERENCE 9: 135:72490

REFERENCE 10: 134:363630

L113 ANSWER 8 OF 13 REGISTRY COPYRIGHT 2003 ACS
RN **7758-98-7** REGISTRY
CN Sulfuric acid copper(2+) salt (1:1) (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Blue Copper
CN Blue stone
CN Blue vitriol
CN Copper monosulfate
CN Copper sulfate
CN Copper sulfate (1:1)
CN Copper sulfate (CuSO4)
CN Copper(2+) sulfate
CN Copper(2+) sulfate (1:1)
CN Copper(II) sulfate
CN Cuivrol
CN Cupric sulfate
CN Cupric sulfate anhydrous
CN Cupric sulphate
CN Delcup
CN Hylinec
CN Incracide 10A
CN Incracide E 51
CN MAC 570

CN Monocopper sulfate
CN Roman vitriol
CN Sulfuric acid, copper(2+) salt (1:1)
DR 139939-69-8
MF Cu . H2 O4 S
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USAN, USPAT2, USPATFULL, VETU, VTB
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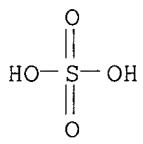
CRN (7664-93-9)



Cu(II)

16624 REFERENCES IN FILE CA (1962 TO DATE)
225 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
16641 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:214584

REFERENCE 2: 138:211923

REFERENCE 3: 138:211918

REFERENCE 4: 138:211911

REFERENCE 5: 138:211910

REFERENCE 6: 138:211885

REFERENCE 7: 138:210799

REFERENCE 8: 138:210285

REFERENCE 9: 138:209747

REFERENCE 10: 138:208614

L113 ANSWER 9 OF 13 REGISTRY COPYRIGHT 2003 ACS
RN **616-34-2** REGISTRY
CN Glycine, methyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN (Methoxycarbonyl)methylamine
CN Glycine O-methyl ester
CN Methyl aminoacetate
CN Methyl glycinate
CN Methyl glycine

FS 3D CONCORD
MF C3 H7 N O2
CI COM
LC STN Files: BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, EMBASE, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, MEDLINE, SPECINFO, TOXCENTER, USPAT2, USPATFULL
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Other Sources: EINECS**
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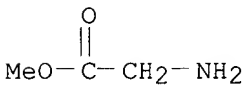

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

987 REFERENCES IN FILE CA (1962 TO DATE)
44 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
988 REFERENCES IN FILE CAPLUS (1962 TO DATE)
27 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:149587

REFERENCE 2: 138:149330

REFERENCE 3: 138:137092

REFERENCE 4: 138:122846

REFERENCE 5: 138:119655

REFERENCE 6: 138:86750

REFERENCE 7: 138:73511

REFERENCE 8: 138:24639

REFERENCE 9: 138:23981

REFERENCE 10: 137:337833

L113 ANSWER 10 OF 13 REGISTRY COPYRIGHT 2003 ACS
RN **150-13-0** REGISTRY
CN Benzoic acid, 4-amino- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Benzoic acid, p-amino- (8CI)
OTHER NAMES:
CN 4-Aminobenzoic acid
CN 4-Carboxyaniline
CN Amben
CN Aniline-4-carboxylic acid
CN Anti-Chromotrichia factor
CN Anticanitic vitamin
CN Anticantic vitamin
CN Antichromotrichia factor
CN Bacterial vitamin H1
CN Chromotrichia factor
CN Hachemina
CN p-Aminobenzoic acid
CN p-Carboxyaniline

CN p-Carboxyphenylamine
CN PAB
CN PABA
CN Pabacyd
CN Pabafilm
CN Pabamine
CN Paraminol
CN Paranate
CN Romavit
CN Sunbrella
CN Trichochromogenic factor
CN Vitamin BX
CN Vitamin H'
FS 3D CONCORD
DR 8014-65-1
MF C7 H7 N O2
CI COM
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DRUGU, EMBASE, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PHAR, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, ULIDAT, USAN, USPAT2, USPATFULL, VETU
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
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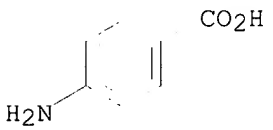

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7084 REFERENCES IN FILE CAPLUS (1962 TO DATE)
10 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:209955

REFERENCE 2: 138:209449

REFERENCE 3: 138:206897

REFERENCE 4: 138:206631

REFERENCE 5: 138:205000

REFERENCE 6: 138:204936

REFERENCE 7: 138:204749

REFERENCE 8: 138:204090

REFERENCE 9: 138:200070

REFERENCE 10: 138:193355

L113 ANSWER 11 OF 13 REGISTRY COPYRIGHT 2003 ACS
RN **110-60-1** REGISTRY
CN 1,4-Butanediamine (8CI, 9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Tetramethylenediamine (7CI)
OTHER NAMES:
CN .alpha.,.omega.-Butanediamine
CN 1,4-Butylenediamine
CN 1,4-Diamino-n-butane
CN 1,4-Diaminobutane
CN 1,4-Tetramethylenediamine
CN Putrescin
CN Putrescine
FS 3D CONCORD
MF C4 H12 N2
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DDFU, DETHERM*, DRUGNL, DRUGPAT, DRUGU, DRUGUPDATES, EMBASE, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
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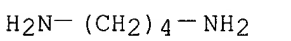

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10443 REFERENCES IN FILE CAPLUS (1962 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:214364

REFERENCE 2: 138:207830

REFERENCE 3: 138:205069

REFERENCE 4: 138:204936

REFERENCE 5: 138:204185

REFERENCE 6: 138:203939

REFERENCE 7: 138:202862

REFERENCE 8: 138:202155

REFERENCE 9: 138:201688

REFERENCE 10: 138:201479

L113 ANSWER 12 OF 13 REGISTRY COPYRIGHT 2003 ACS
RN **64-77-7** REGISTRY
CN Benzenesulfonamide, N-[(butylamino)carbonyl]-4-methyl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:
CN Urea, 1-butyl-3-(p-tolylsulfonyl)- (8CI)
OTHER NAMES:
CN 1-Butyl-3-(p-methylphenylsulfonyl)urea
CN 1-Butyl-3-(p-tolylsulfonyl)urea
CN 3-(p-Tolyl-4-sulfonyl)-1-butylurea
CN Aglicid
CN Arkozal
CN Artosin
CN Artozin
CN Butamid
CN Butamide
CN D 860
CN Diaben
CN Diabetamid
CN Diabetol
CN Diabuton
CN Diasulfon
CN Dolipol
CN Glyconon
CN HLS 831
CN Ipoglicone
CN Mobenol
CN N-(4-Methylbenzenesulfonyl)-N'-butylurea
CN N-(4-Methylphenylsulfonyl)-N'-butylurea
CN N-(p-Methylbenzenesulfonyl)-N'-butylurea
CN N-(p-Tolylsulfonyl)-N'-butylcarbamide
CN N-(Sulfonyl-p-methylbenzene)-N'-n-butylurea
CN N-Butyl-N'-(4-methylphenylsulfonyl)urea
CN N-Butyl-N'-(p-tolylsulfonyl)urea
CN N-Butyl-N'-p-toluenesulfonylurea
CN N-n-Butyl-N'-tosylurea
CN Orabet
CN Oralin
CN Orezan
CN Orinase
CN Orinaz
CN Oterben
CN Pramidex
CN Rastinon
CN Tolbusal
CN Tolbutamid
CN Tolbutamide
CN Toluina
CN Tolumid
CN Tolumide
CN Toluvan
CN U 2043
CN Willbutamide
FS 3D CONCORD
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MF C12 H18 N2 O3 S
CI COM
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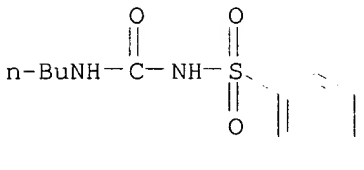
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3536 REFERENCES IN FILE CA (1962 TO DATE)
25 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3537 REFERENCES IN FILE CAPLUS (1962 TO DATE)
74 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:200041

REFERENCE 2: 138:198554

REFERENCE 3: 138:181164

REFERENCE 4: 138:180739

REFERENCE 5: 138:175834

REFERENCE 6: 138:163277

REFERENCE 7: 138:131127

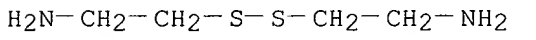
REFERENCE 8: 138:117219

REFERENCE 9: 138:112443

REFERENCE 10: 138:100721

L113 ANSWER 13 OF 13 REGISTRY COPYRIGHT 2003 ACS
RN **51-85-4** REGISTRY
CN Ethanamine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Ethylamine, 2,2'-dithiobis- (8CI)
OTHER NAMES:
CN .beta.,.beta.'-Diaminodiethyl disulfide
CN .beta.-Mercaptoethylamine disulfide
CN 1,6-Diamino-3,4-dithiahexane
CN 2,2'-Dithiobis[ethanamine]
CN 2,2'-Dithiobis[ethylamine]
CN 2,2'-Dithiodiethylamine
CN 2-Aminoethane disulfide
CN 2-Aminoethyl disulfide
CN Bis(.beta.-aminoethyl) disulfide
CN Bis(2-aminoethyl) disulfide
CN Cystamine
CN Cysteinamine disulfide
CN Cystineamine
CN Decarboxycystine
CN L 1591
CN Mercamine disulfide
CN Merkamine disulfide
FS 3D CONCORD
MF C4 H12 N2 S2
CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, NAPRALERT, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1635 REFERENCES IN FILE CA (1962 TO DATE)
62 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1637 REFERENCES IN FILE CAPLUS (1962 TO DATE)
25 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:203675

REFERENCE 2: 138:188004

REFERENCE 3: 138:175678

REFERENCE 4: 138:140904

REFERENCE 5: 138:132962

REFERENCE 6: 138:100900

REFERENCE 7: 138:57059

REFERENCE 8: 138:52297

REFERENCE 9: 138:4526

REFERENCE 10: 137:365296

=> d his

(FILE 'REGISTRY' ENTERED AT 15:25:25 ON 31 MAR 2003)
DEL HIS
E TRANSGLUTAMINASE/CN
L1 3 S E3
E TRANSGLUTAMINASE
L2 139 S E3
L3 136 S L2 NOT L1

FILE 'HCAPLUS' ENTERED AT 15:31:58 ON 31 MAR 2003
L4 3144 S L1
L5 3190 S L2
L6 3720 S TRANSGLUTAMINASE OR TRANS GLUTAMINASE
L7 397 S BLOOD COAGULATION FACTOR XIIIA
L8 37 S FIBRINOLIGASE
L9 648 S FACTOR XIIIA
L10 130 S BLOOD COAGULATION FACTOR XIII(S)ACTIVAT?
L11 90 S GLUTAMYLTRANSFERASE(S)GLUTAMINYLPEPTIDE(S)GAMMA
L12 4347 S L4-L11
L13 42 S MONODANSYL CADAVERINE

```
L14           1 S MONO DANSYL CADAVERINE
L15           3 S MONO DANSYLCADAVERINE
L16        2346 S CYSTAMINE
L17        9513 S PUTRESCINE
L18          22 S GAMMA () (AMINOBENZOIC OR AMINO BENZOIC) () ACID
L19        3269 S N()(BENZYLOXYCARBONYL OR BENZYLOXY CARBONYL OR BENZYL ()(OXYC
L20           0 S DEAZO(S)OXONORVALINE(S)NITROPHENYL(S)ESTER
L21        1735 S GLYCINE METHYL ESTER
L22        4531 S TOLBUTAMIDE
                E WO9965516/PN
L23       50753 S CUSO4 OR (CU OR COPPER OR CUPRIC)()(SULFATE OR SULPHATE)
L24           1 S E3
                E STEINMAN L/AU
L25         199 S E3,E4
                E KARPUJ M/AU
L26          11 S E4-E7
                E YEDA/PA,CS
L27         726 S E3-E53
L28          10 S L25-L27 AND L12
L29           5 S L24,L28 AND P/DT

     FILE 'REGISTRY' ENTERED AT 15:47:03 ON 31 MAR 2003
L30           6 S 10121-91-2 OR 51-85-4 OR 110-60-1 OR 616-34-2 OR 7758-98-7 OR
L31          45 S 7664-93-9/CRN AND CU/ELS AND 2/NC
L32          37 S L31 AND NR>=1
L33           8 S L31 NOT L32
L34           6 S L33 NOT MNS/CI
L35           1 S 150-13-0
L36           1 S 74389-76-7
L37          13 S L30,L34-L36

     FILE 'HCAPLUS' ENTERED AT 15:49:50 ON 31 MAR 2003
L38       41032 S L37
L39        9646 S (4 OR P OR PARA) () (AMINOBENZOIC OR AMINO BENZOIC) () ACID
L40         312 S DANSYLCADAVERINE OR DANSYL CADAVERINE
L41       91631 S L13-L23,L38-L40
L42         513 S L41 AND L12
L43           4 S L42 AND L28
L44           6 S L28 NOT L43
L45          94 S POLYQ OR POLY Q
L46           2 S L42 AND L45
L47        1016 S POLYGLUTAMINE OR POLY GLUTAMINE

     FILE 'REGISTRY' ENTERED AT 15:55:22 ON 31 MAR 2003
                E POLYGLUTAMINE/CN
L48           2 S E3
L49           3 S (L-GLUTAMINE OR D-GLUTAMINE OR DL-GLUTAMINE)/CN
                SEL RN
L50          42 S E1-E3/CRN AND PMS/CI
L51          42 S L50 AND C5H10N2O3
L52           3 S L51 AND 1/NC
                E (C5H8N2O2)N/MF
L53          12 S E3
                SEL RN 1 4 8
L54           3 S E1-E3
L55           6 S L48,L52,L54

     FILE 'HCAPLUS' ENTERED AT 15:57:49 ON 31 MAR 2003
L56         514 S L55
L57         206 S POLY(1W)GLUTAMINE
L58           6 S L56,L57,L47 AND L42
                E AGGREGAT/CT
                E E18+ALL
```

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L59           3 S E2+NT AND L42
                E HUNTINGTON/CT
                E E7+ALL
L60           9 S L42 AND HUNTINGT?
L61           1 S SPINOBULBAR? AND L42
L62           2 S SPINOCEREBEL? AND L42
L63           4 S DENTATORUBRAL? AND L42
L64           8 S (ATROPH? OR ATAXI? OR NEURODEGEN?) AND L42
L65          15 S L46,L58-L64
L66          22 S L43,L44,L65
L67          12 S L66 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L68           4 S L42 AND ?PALLIDOL?
L69           4 S L42 AND CAG
L70           4 S L68,L69 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L71          12 S L67,L70
                SEL DN AN 1 3 4 5 6 10 11
L72           5 S L71 NOT E1-E21
L73           7 S L71 NOT L72
L74           1 S L73 AND CAG
L75           6 S L72,L74
                E ANTISENSE/CT
                E E4+ALL
L76        3549 S E6,E5
                E E7+ALL
L77        7190 S E9+NT
L78          14 S L76,L77 AND L12
L79           4 S L78 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L80           1 S L79 NOT (PROSTATE OR RETINOID)
L81           6 S L75,L80
                E GENE THERAPY/CT
                E E3+ALL
L82       23351 S E5,E4+NT
L83          34 S L82 AND L12
L84          15 S L83 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L85          16 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND (RECEPTOR(L)M
L86           1 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND TRANSKARYOT?(
L87           0 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND (VIRAL? OR VI
L88           2 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND RETROVIR?(L)(
L89          11 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND RETROVIR?
L90          72 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND (SHUTTL? OR V
L91          14 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND ?LIPOSOM?
L92         108 S L84-L91
L93          31 S L92 AND (PHARMACOL? OR PHARMACEUT?)/SC,SX
                E DRUG DELIVERY/CT
L94           9 S E6+NT AND L92
L95          21 S L93,L94 AND L4
L96          19 S L95 NOT PROSTAT?
                SEL DN AN 3-5
L97           3 S E1-E9
L98           8 S L81,L97 AND L4-L29,L38-L47,L56-L97
                E NERVOUS SYSTEM/CT
                E E3+ALL
L99      274842 S E4,E3+NT
                E E118+ALL
L100      43692 S E2+NT
                E E11+ALL
L101      89493 S E1+NT
L102        249 S L12 AND L99-L101
L103         45 S L12 AND NEURODEGEN?
L104        135 S L102,L103 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L105         16 S L104 AND (1 OR 63)/SC
L106          9 S L104 AND (1 OR 63)/SX
L107         23 S L105,L106
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L108          21 S L107 NOT L98
L109           2 S L98 AND L107
L110           8 S L98,L109
L111           1 S L110 AND TISSUE
L112           8 S L110,L111
                 SEL HIT RN

     FILE 'REGISTRY' ENTERED AT 16:28:10 ON 31 MAR 2003
L113          13 S E1-E13

     FILE 'REGISTRY' ENTERED AT 16:28:26 ON 31 MAR 2003

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 16:29:14 ON 31 MAR 2003
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FILE COVERS 1907 - 31 Mar 2003  VOL 138 ISS 14
FILE LAST UPDATED: 30 Mar 2003  (20030330/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


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L112 ANSWER 1 OF 8  HCAPLUS  COPYRIGHT 2003 ACS
AN   2000:291081  HCAPLUS
DN   132:320947
TI   Inhibition of transglutaminase-mediated microbial interaction
     with a mammalian host
IN   Sundstrom, Paula; Bradway, Steven
PA   USA
SO   PCT Int. Appl., 62 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
IC   ICM  C07K014-00
CC   15-3 (Immunochemistry)
     Section cross-reference(s): 1, 3
FAN.CNT 1
     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ---------------   ----  --------      ---------------  --------
PI   WO 2000024773     A2    20000504      WO 1999-US25043  19991026 <--
     WO 2000024773     A3    20000810
         W:  AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU,
             CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
             IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
             MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,
             SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ,
             BY, KG, KZ, MD, RU, TJ, TM
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RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
US 6388056 B1 20020514 US 1998-178509 19981026 <--
EP 1127067 A2 20010829 EP 1999-971000 19991026 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
JP 2002529052 T2 20020910 JP 2000-578343 19991026 <--
US 2002122804 A1 20020905 US 2002-117121 20020408 <--
PRAI US 1998-178509 A 19981026 <--
WO 1999-US25043 W 19991026

AB The infection of a mammalian host by a microorganism can be prevented or treated through the administration of substrates for **transglutaminases** or antibodies against such substrates that inhibit the **transglutaminase**-mediated interaction of the microorganism with the mammalian host. These compds. may be used in the identification, prevention or treatment of microbial infection of mammalian hosts such as immunocompromised or immunosuppressed humans, for example, those having AIDS or undergoing transplantation or anti-cancer therapy.

ST microorganism mammal infection **transglutaminase** substrate antibody

IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(Hwp1 or hyphal wall protein 1 and mutein; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)

IT Infection
(bacterial; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)

IT Mammal (Mammalia)
(cell; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)

IT Test kits
(diagnostic; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)

IT Mucous membrane
(epithelial cell; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)

IT Cheek
(epithelium, cell; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)

IT Animal cell
(human; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)

IT Fluorescent substances
(label; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)

IT Enzymes, biological studies
Radionuclides, biological studies
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(label; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a

mammalian host)
IT Antibodies
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(monoclonal; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)
IT **Drug delivery systems**
(oral; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)
IT Proteins, specific or class
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(proline-rich; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)
IT AIDS (disease)
Antitumor agents
Bacteria (Eubacteria)
Candida albicans
Colorimetric indicators
DNA sequences
Drug delivery systems
Epithelium
Gene therapy
Immunodeficiency
Infection
Labels
Microorganism
Molecular cloning
Mycosis
Protein sequences
Transplant and Transplantation
Vaccines
Yeast
(substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)
IT Antibodies
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)
IT DNA
RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)
IT Immunosuppression
(therapy; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)
IT 267218-09-7
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)
IT 267218-10-0
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL

(Biological study)
(nucleotide sequence; substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)

IT **80146-85-6, Transglutaminase**
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)

IT **80146-85-6, Transglutaminase**
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(substrate protein and antibody for inhibition of **transglutaminase**-mediated microbial interaction with a mammalian host)

RN 80146-85-6 HCAPLUS
CN Glutamyltransferase, glutaminylpeptide .gamma.- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L112 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN **1999:811104** HCAPLUS
DN **132:45002**
TI Methods and compositions for treating diseases mediated by **transglutaminase** activity
IN **Steinman, Lawrence; Karpuj, Marcella V.**
PA **Yeda Research and Development Co. Ltd., Israel**
SO PCT Int. Appl., 61 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM A61K038-48
ICS A61K031-13
CC **1-12** (**Pharmacology**)
Section cross-reference(s): **63**
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9965516	A1	19991223	WO 1999-US13615	19990617 <--
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9948239	A1	20000105	AU 1999-48239	19990617 <--
PRAI	US 1998-89603P	P	19980617 <--		
	WO 1999-US13615	W	19990617		

AB Diseases mediated by **transglutaminase**, e.g. **Huntington's** Disease, **spinobulbar atrophy**, **spinocerebellar ataxia**, and **dentatorubralpallidoluysian atrophy**, as well as inflammatory diseases of the central nervous system, including multiple sclerosis, rheumatoid arthritis, and insulin-dependent diabetes mellitus, can be treated by administering a **transglutaminase** inhibitor, e.g. **monodansyl cadaverine**, monoamines and diamines such as **cystamine** or **putrescine**, etc.

ST **transglutaminase** inhibitor therapeutic; nervous system disease **transglutaminase** inhibitor; antiinflammatory antidiabetic

transglutaminase inhibitor

IT **Nervous system**
(**Huntington**'s chorea; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Virus **vectors**
(and **transkaryotic implantation**; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Disease, animal
(**atrophy, spinobulbar**; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Encephalomyelitis
(autoimmune; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Erythrocyte
Erythrocyte
(cell membrane, **liposome** hybrid; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Autoimmune disease
(cell-mediated; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT **Nervous system**
(central, inflammation; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Brain
(cerebellum; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Brain
(cortex; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Brain
(corticular nuclear ext.; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT **Nervous system**
(degeneration; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Brain, disease
(**dentatorubral-pallidoluysian atrophy**; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Cell membrane
Cell membrane
(erythrocyte, **liposome** hybrid; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**huntingtin**; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT **Drug delivery systems**
(**immunoliposomes**; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by

transglutaminase activity)

IT Diabetes mellitus
(insulin-dependent; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT **Drug delivery systems**
(**liposomes; transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Aggregation
(of **polyQ**-contg. proteins; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT **Receptors**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**receptor-mediated gene** delivery; **transglutaminase** inhibitor-based methods and compns. for treating diseases **mediated** by **transglutaminase** activity)

IT **Nervous system**
(**spinocerebellar ataxia; transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Multiple sclerosis
(therapeutic agents; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Anti-inflammatory agents
Antidiabetic agents
Antirheumatic agents
Drug delivery systems
Gene therapy
Lymphoblast
Nervous system agents
Retroviral vectors
(**transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT **Antisense DNA**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**transglutaminase; transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT 24991-23-9 25513-46-6, Polyglutamic acid
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**polyQ**-contg. protein aggregation; **transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT **51-85-4, Cystamine 64-77-7, Tolbutamide 110-60-1, Putrescine 150-13-0 616-34-2, Glycine methyl ester 7758-98-7, Cupric sulfate,** biological studies **10121-91-2, Monodansyl cadaverine 74389-76-7**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES

(Uses)
(**transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT **80146-85-6, Transglutaminase**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT 252868-73-8, 2: PN: WO9965516 SEQID: 3 unclaimed DNA 252868-74-9, 3: PN: WO9965516 SEQID: 4 unclaimed DNA
RL: PRP (Properties)
(unclaimed nucleotide sequence; methods and compns. for treating diseases mediated by **transglutaminase** activity)

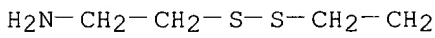
IT 252874-67-2
RL: PRP (Properties)
(unclaimed protein sequence; methods and compns. for treating diseases mediated by **transglutaminase** activity)

IT 252769-79-2
RL: PRP (Properties)
(unclaimed sequence; methods and compns. for treating diseases mediated by **transglutaminase** activity)

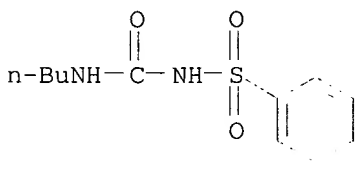
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Heska Corporation USA; WO 9824887 A2 1998 HCAPLUS
(2) O'Hara; US 5514579 A 1996 HCAPLUS
(3) Victoria University of Manchester; WO 9804245 A1 1998 HCAPLUS

IT **51-85-4, Cystamine 64-77-7, Tolbutamide 110-60-1, Putrescine 150-13-0 616-34-2, Glycine methyl ester 7758-98-7, Cupric sulfate,** biological studies **10121-91-2, Monodansyl cadaverine 74389-76-7**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)

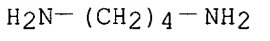
RN 51-85-4 HCAPLUS
CN Ethanamine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



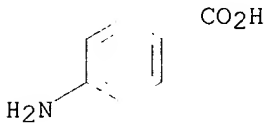
RN 64-77-7 HCAPLUS
CN Benzenesulfonamide, N-[(butylamino)carbonyl]-4-methyl- (9CI) (CA INDEX NAME)



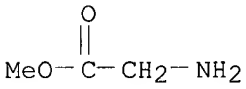
RN 110-60-1 HCAPLUS
CN 1,4-Butanediamine (8CI, 9CI) (CA INDEX NAME)



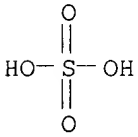
RN 150-13-0 HCAPLUS
CN Benzoic acid, 4-amino- (9CI) (CA INDEX NAME)



RN 616-34-2 HCAPLUS
CN Glycine, methyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)

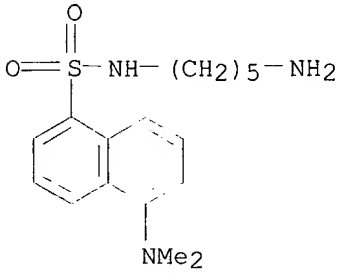


RN 7758-98-7 HCAPLUS
CN Sulfuric acid copper(2+) salt (1:1) (8CI, 9CI) (CA INDEX NAME)

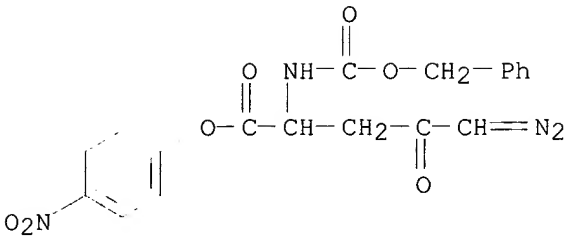


Cu(II)

RN 10121-91-2 HCAPLUS
CN 1-Naphthalenesulfonamide, N-(5-aminopentyl)-5-(dimethylamino)- (8CI, 9CI) (CA INDEX NAME)



RN 74389-76-7 HCAPLUS
CN Norvaline, 5-diazo-4-oxo-N-[(phenylmethoxy)carbonyl]-, 4-nitrophenyl ester (9CI) (CA INDEX NAME)



IT **80146-85-6, Transglutaminase**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**transglutaminase** inhibitor-based methods and compns. for treating diseases mediated by **transglutaminase** activity)
RN 80146-85-6 HCAPLUS
CN Glutamyltransferase, glutaminylpeptide .gamma.- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L112 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN **1999:659654** HCAPLUS
DN **131:283323**
TI Bacterial **transglutaminases** and genes and recombinant pro-**transglutaminase** for use in food, cosmetic and pharmaceutical industries
IN Fuchsbauer, Hans-Lothar; Pasternack, Ralf; Dorsch, Simone; Otterbach, Jens; Robenek, Isabella; Mainusch, Martina; Dauscher, Christine
PA Germany
SO Ger. Offen., 44 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C12N009-10
ICS C12N015-54; C07H021-00; C12N015-70; C12N015-76; C12N001-21; C12P021-00; C07K016-40
ICI C12N009-10, C12R001-625; C12N015-54, C12R001-625; C12N015-76, C12R001-465; C12N001-21, C12R001-19; C12N001-21, C12R001-465
CC 7-2 (Enzymes)
Section cross-reference(s): 3, 17, 62, **63**
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19814860	A1	19991007	DE 1998-19814860	19980402 <--
	WO 9951723	A2	19991014	WO 1999-EP2259	19990401 <--
	WO 9951723	A3	20000316		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9936044	A1	19991025	AU 1999-36044	19990401 <--
	EP 1068301	A2	20010117	EP 1999-917952	19990401 <--
	R: BE, CH, DE, FR, GB, LI				
PRAI	DE 1998-19814860	A	19980402 <--		
	WO 1999-EP2259	W	19990401		

AB The sequences of the pro domains and the mature **transglutaminases**

of Streptoverticillium mobaraense and S. fervens melrosporus and the corresponding nucleic acids encoding these peptides/proteins are disclosed. **Vectors** expressing prepro-, pro- and mature **transglutaminases** of S. mobaraense and S. fervens melrosporus, recombinant bacteria transformed with these **vectors**, and a method for prepg. pro-**transglutaminase** with such recombinant bacteria are further disclosed. The **transglutaminases** may be used to crosslink proteins and as such may be used in the food, cosmetic and pharmaceutical industries.

ST Streptoverticillium **transglutaminase** recombinant protein crosslinking; sequence Streptoverticillium **transglutaminase** gene

IT Antibodies
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(anti-**transglutaminase**; bacterial **transglutaminases** and genes and recombinant pro-**transglutaminase** for use in food, cosmetic and pharmaceutical industries)

IT Cosmetics
Crosslinking agents
Food
Health products
Streptomyces mobaraensis
Streptoverticillium fervens melrosporus
(bacterial **transglutaminases** and genes and recombinant pro-**transglutaminase** for use in food, cosmetic and pharmaceutical industries)

IT DNA sequences
(of **transglutaminase** genes of Streptoverticillium mobaraense and S. fervens melrosporus)

IT Protein sequences
(of **transglutaminases** of Streptoverticillium mobaraense and S. fervens melrosporus)

IT Actinomyces
Bacteria (Eubacteria)
Escherichia coli
Streptomyces lividans
(**transglutaminase** prodn. with; bacterial **transglutaminases** and genes and recombinant pro-**transglutaminase** for use in food, cosmetic and pharmaceutical industries)

IT 245738-93-6
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(Streptoverticillium fervens melrosporus propeptide-specifying; bacterial **transglutaminases** and genes and recombinant pro-**transglutaminase** for use in food, cosmetic and pharmaceutical industries)

IT **143638-61-3P** 218948-49-3P 245738-96-9P 245738-97-0P 245739-03-1P 245739-04-2P
RL: BPN (Biosynthetic preparation); FFD (Food or feed use); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; bacterial **transglutaminases** and genes and recombinant pro-**transglutaminase** for use in food, cosmetic and pharmaceutical industries)

IT 245738-95-8 **245750-05-4**
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(amino acid sequence; bacterial **transglutaminases** and genes and recombinant pro-**transglutaminase** for use in food, cosmetic and pharmaceutical industries)

IT **80146-85-6P, Transglutaminase**
RL: BPN (Biosynthetic preparation); FFD (Food or feed use); PRP

(Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(bacterial **transglutaminases** and genes and recombinant pro-**transglutaminase** for use in food, cosmetic and pharmaceutical industries)

IT 245738-99-2 245739-00-8 245739-01-9 245739-02-0 245739-05-3 245739-06-4
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(nucleotide sequence; bacterial **transglutaminases** and genes and recombinant pro-**transglutaminase** for use in food, cosmetic and pharmaceutical industries)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; EP 0481504 A1 HCAPLUS
(2) Anon; JP 1994030771 A1
(3) Anon; US 5420025 HCAPLUS
(4) Anon; WO 960631

IT **143638-61-3P**
RL: BPN (Biosynthetic preparation); FFD (Food or feed use); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; bacterial **transglutaminases** and genes and recombinant pro-**transglutaminase** for use in food, cosmetic and pharmaceutical industries)

RN 143638-61-3 HCAPLUS
CN Glutamyltransferase, glutaminylpeptide .gamma.- (Streptoverticillium clone pTV118NcoI) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **245750-05-4**
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(amino acid sequence; bacterial **transglutaminases** and genes and recombinant pro-**transglutaminase** for use in food, cosmetic and pharmaceutical industries)

RN 245750-05-4 HCAPLUS
CN Glutamyltransferase, glutaminylpeptide .gamma.- (Streptoverticillium mobaraense pro domain) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **80146-85-6P, Transglutaminase**
RL: BPN (Biosynthetic preparation); FFD (Food or feed use); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(bacterial **transglutaminases** and genes and recombinant pro-**transglutaminase** for use in food, cosmetic and pharmaceutical industries)

RN 80146-85-6 HCAPLUS
CN Glutamyltransferase, glutaminylpeptide .gamma.- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L112 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:481278 HCAPLUS
DN 131:125479
TI Therapeutic agents for **CAG** repeat expansion disease
IN Tsuji, Shoji
PA Niigata University, Japan
SO Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF
DT Patent
LA Japanese

IC ICM A61K045-00
ICS A61K045-00; A61K031-195; A61K038-00
CC **1-12** (Pharmacology)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI JP 11209304	A2	19990803	JP 1998-27739	19980126	<--
JP 3012923	B2	20000228			
AU 9913191	A1	19990812	AU 1999-13191	19990122	<--
US 6355690	B1	20020312	US 1999-236002	19990122	<--
EP 950406	A2	19991020	EP 1999-101063	19990125	<--
EP 950406	A3	20001129			

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRAI JP 1998-27739 A 19980126 <--

AB Therapeutic agents for **CAG** repeat expansion disease comprise **transglutaminase** inhibitors i.e. cysteamine and **monodansyl cadaverine**. **CAG** repeat expansion disease is spinal and bulbar muscular **atrophy**, **Huntington**'s disease, **spinocerebeller ataxia** type 2, hereditary **dentatorubral pallidoluysian atrophy**, Machado-Joseph disease or autosomal dominal cerebellar **ataxia**.

ST **CAG** repeat expansion disease **transglutaminase** inhibitor; cysteamine **CAG** repeat expansion disease; **monodansyl cadaverine CAG** repeat expansion disease

IT Disease, animal
(**CAG** repeat expansion; therapeutic agents for **CAG** repeat expansion disease)

IT **Nervous system**
(**Huntington**'s chorea; therapeutic agents for **CAG** repeat expansion disease)

IT **Nervous system**
(Machado-Joseph disease; therapeutic agents for **CAG** repeat expansion disease)

IT **Nervous system**
(**ataxia, spinocerebeller** or autosomal dominal cerebellar; therapeutic agents for **CAG** repeat expansion disease)

IT Disease, animal
(**atrophy**, hereditary **dentatorubral pallidoluysian**; therapeutic agents for **CAG** repeat expansion disease)

IT Spinal muscular **atrophy**
(spinal and bulbar muscular **atrophy**; therapeutic agents for **CAG** repeat expansion disease)

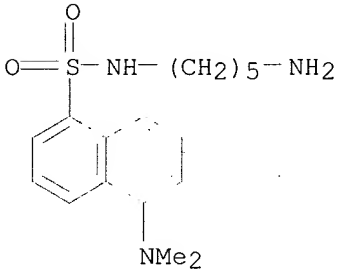
IT **80146-85-6, Transglutaminase**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(inhibitors; therapeutic agents for **CAG** repeat expansion disease)

IT 60-23-1, Cysteamine **10121-91-2, Monodansyl cadaverine**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(therapeutic agents for **CAG** repeat expansion disease)

IT **80146-85-6, Transglutaminase**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(inhibitors; therapeutic agents for **CAG** repeat expansion

disease)
RN 80146-85-6 HCAPLUS
CN Glutamyltransferase, glutaminylpeptide .gamma.- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **10121-91-2, Monodansyl cadaverine**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(therapeutic agents for **CAG** repeat expansion disease)
RN 10121-91-2 HCAPLUS
CN 1-Naphthalenesulfonamide, N-(5-aminopentyl)-5-(dimethylamino)- (8CI, 9CI) (CA INDEX NAME)



L112 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN 1998:272230 HCAPLUS
DN 129:53015
TI **Tissue transglutaminase**-catalyzed formation of high-molecular-weight aggregates in vitro is favored with long **polyglutamine** domains: a possible mechanism contributing to **CAG**-triplet diseases
AU Gentile, Vittorio; Sepe, Carlo; Calvani, Menotti; Melone, Mariarosa A. B.; Cotrufo, Roberto; Cooper, Arthur J. L.; Blass, John P.; Peluso, Gianfranco
CS Dipartimento di Biochimica e Biofisica, Seconda Universita di Napoli, Naples, 80138, Italy
SO Archives of Biochemistry and Biophysics (**1998**), 352(2), 314-321
CODEN: ABBIA4; ISSN: 0003-9861
PB Academic Press
DT Journal
LA English
CC 14-10 (Mammalian Pathological Biochemistry)
AB To investigate possible biochem. mechanisms underlying the "toxic gain of function" assocd. with **polyglutamine** expansions, the ability of guinea pig liver **tissue transglutaminase** to catalyze covalent attachments of various polyamines to **polyglutamine** peptides was examd. Of the polyamines tested, spermine is the most active substrate, followed by spermidine and **putrescine**. Formation of covalent crosslinks between **polyglutamine** peptides and polyamines yields high-Mr aggregates - a process that is favored with longer **polyglutamines**. In the presence of **tissue transglutaminase**, purified glyceraldehyde-3-phosphate dehydrogenase (a key glycolytic enzyme that binds tightly to the **polyglutamine** domains of both **huntingtin** and **dentatorubral-pallidoluysian atrophy** proteins) is covalently attached to **polyglutamine** peptides in vitro, resulting in the formation of high-Mr aggregates. In addn., endogenous glyceraldehyde-3-phosphate dehydrogenase of a Balb-c 3T3 fibroblast cell line overexpressing human **tissue transglutaminase** forms crosslinks with a Q60 polypeptide added to the cell homogenate.

Possibly, expansion of **polyglutamine** domains (thus far known to occur in the gene products assocd. with at least seven **neurodegenerative** diseases) leads to increased/aberrant **tissue transglutaminase**-catalyzed crosslinking reactions with both polyamines and susceptible proteins, such as glyceraldehyde-3-phosphate dehydrogenase. Formation of crosslinked heteropolymers may lead to deposition of high-Mr protein aggregates, thereby contributing to cell death.

ST **polyglutamine** protein crosslinking aggregation **CAG** disease; **CAG** triplet disease **polyglutamine** protein crosslinking

IT Crosslinking
(biol.; **tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)

IT Nervous system
(degeneration; **tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)

IT Mutation
(expansion, of **CAG** trinucleotide repeat; **tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)

IT Disease, animal
(genetic, trinucleotide repeat; **tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)

IT Amines, biological studies
RL: ADV (Adverse effect, including toxicity); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(polyamines, nonpolymeric, crosslinking; **tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)

IT Proteins, specific or class
RL: ADV (Adverse effect, including toxicity); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**polyglutamine**-contg.; **tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)

IT Repeat motifs (protein)
(**polyglutamine**; **tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)

IT Cell death
Molecular association
(**tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)

IT Repetitive DNA
RL: ADV (Adverse effect, including toxicity); BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(trinucleotide; **tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)

IT 71-44-3, Spermine **110-60-1, Putrescine** 124-20-9, Spermidine 9001-50-7, Glyceraldehyde-3-phosphate dehydrogenase
RL: ADV (Adverse effect, including toxicity); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(crosslinking; **tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)

IT **80146-85-6, Glutaminylpeptide .gamma.-glutamyltransferase**
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(**tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)

IT **26700-71-0D, Polyglutamine**, proteins contg.
69864-43-3D, Polyglutamine, proteins contg.
RL: ADV (Adverse effect, including toxicity); BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(**tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)

IT 101985-79-9, d-**CAG**
RL: ADV (Adverse effect, including toxicity); BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(**tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)

RE.CNT 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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(3) Arends, M; Int Rev Exp Pathol 1991, V32, P223 MEDLINE
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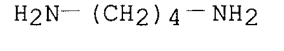
IT **110-60-1, Putrescine**
RL: ADV (Adverse effect, including toxicity); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(crosslinking; **tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)
RN 110-60-1 HCAPLUS
CN 1,4-Butanediamine (8CI, 9CI) (CA INDEX NAME)



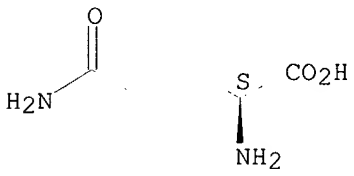
IT **80146-85-6, Glutaminylpeptide .gamma.-glutamyltransferase**
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(**tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)
RN 80146-85-6 HCAPLUS
CN Glutamyltransferase, glutaminylpeptide .gamma.- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **26700-71-0D, Polyglutamine**, proteins contg.
69864-43-3D, Polyglutamine, proteins contg.
RL: ADV (Adverse effect, including toxicity); BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(**tissue transglutaminase**-catalyzed formation of high-mol.-wt. aggregates in vitro is favored with long **polyglutamine** domains: possible mechanism contributing to human **CAG**-triplet **neurodegenerative** diseases)
RN 26700-71-0 HCAPLUS
CN L-Glutamine, homopolymer (9CI) (CA INDEX NAME)

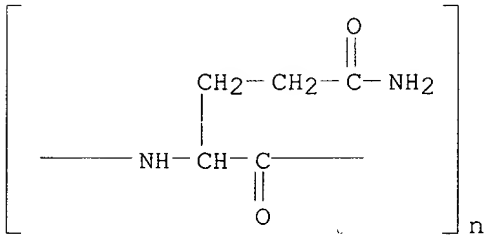
CM 1

CRN 56-85-9
CMF C5 H10 N2 O3

Absolute stereochemistry.



RN 69864-43-3 HCAPLUS
CN Poly[imino[(1S)-1-(3-amino-3-oxopropyl)-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)



L112 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN 1998:225134 HCAPLUS
DN 129:3545
TI **Transglutaminase** action imitates **Huntington**'s disease: selective polymerization of **huntingtin** containing expanded **polyglutamine**
AU Kahlem, Pascal; Green, Howard; Djian, Philippe
CS Centre National de la Recherche Scientifique, Centre de Recherche sur l'Endocrinologie Moleculaire et le Developpement, Meudon-Bellevue, 92190, Fr.
SO Molecular Cell (**1998**), 1(4), 595-601
CODEN: MOCEFL; ISSN: 1097-2765
PB Cell Press
DT Journal
LA English
CC 14-10 (Mammalian Pathological Biochemistry)
AB Different proteins bearing **polyglutamine** of excessive length are

lethal to neurons and cause human disease of the central nervous system. In parts of the brain affected by **Huntington**'s disease, the amt. of the **huntingtin** with expanded **polyglutamine** is reduced and there appear **huntingtin**-contg. polymers of larger mol. wt. We show here that **huntingtin** is a substrate of **transglutaminase** in vitro and that the rate const. of the reaction increases with length of the **polyglutamine** over a range of an order of magnitude. As a result, **huntingtin** with expanded **polyglutamine** is preferentially incorporated into polymers. Both disappearance of the **huntingtin** with expanded **polyglutamine** and its replacement by polymeric forms are prevented by inhibitors of **transglutaminase**. The effect of **transglutaminase** therefore duplicates the changes in the affected parts of the brain.

ST **Huntington** disease **huntingtin polyglutamine** **transglutaminase**

IT Nervous system
(**Huntington**'s chorea; **transglutaminase** action imitates **Huntington**'s disease by inducing selective polymn. of **huntingtin** contg. expanded **polyglutamine**)

IT Proteins, specific or class
RL: ADV (Adverse effect, including toxicity); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**huntingtins**; **transglutaminase** action imitates **Huntington**'s disease by inducing selective polymn. of **huntingtin** contg. expanded **polyglutamine**)

IT Disease models
(**transglutaminase** action imitates **Huntington**'s disease by inducing selective polymn. of **huntingtin** contg. expanded **polyglutamine**)

IT **80146-85-6, Transglutaminase**
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(**transglutaminase** action imitates **Huntington**'s disease by inducing selective polymn. of **huntingtin** contg. expanded **polyglutamine**)

IT **26700-71-0, Polyglutamine 69864-43-3, Polyglutamine**
RL: ADV (Adverse effect, including toxicity); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**transglutaminase** action imitates **Huntington**'s disease by inducing selective polymn. of **huntingtin** contg. expanded **polyglutamine**)

IT **51-85-4, Cystamine**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**transglutaminase** action imitates **Huntington**'s disease by inducing selective polymn. of **huntingtin** contg. expanded **polyglutamine**)

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD

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IT **80146-85-6, Transglutaminase**
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(**transglutaminase** action imitates **Huntington's** disease by inducing selective polymn. of **huntingtin** contg. expanded **polyglutamine**)
RN 80146-85-6 HCAPLUS
CN Glutamyltransferase, glutaminylpeptide .gamma.- (9CI) (CA INDEX NAME)

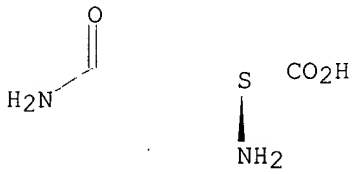
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **26700-71-0, Polyglutamine 69864-43-3, Polyglutamine**
RL: ADV (Adverse effect, including toxicity); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**transglutaminase** action imitates **Huntington's** disease by inducing selective polymn. of **huntingtin** contg. expanded **polyglutamine**)
RN 26700-71-0 HCAPLUS
CN L-Glutamine, homopolymer (9CI) (CA INDEX NAME)

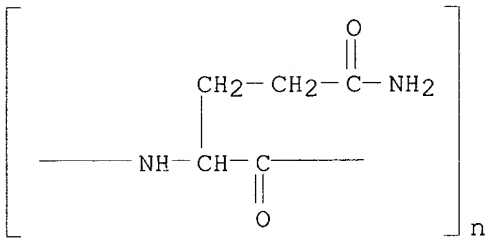
CM 1

CRN 56-85-9
CMF C5 H10 N2 O3

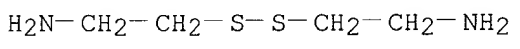
Absolute stereochemistry.



RN 69864-43-3 HCAPLUS
CN Poly[imino[(1S)-1-(3-amino-3-oxopropyl)-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)



IT **51-85-4, Cystamine**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**transglutaminase** action imitates **Huntington's** disease by inducing selective polymn. of **huntingtin** contg. expanded **polyglutamine**)
RN 51-85-4 HCAPLUS
CN Ethanamine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



L112 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN 1998:85454 HCAPLUS
DN 128:179041
TI Suppression of aggregate formation and apoptosis by **transglutaminase** inhibitors in cells expressing truncated DRPLA protein with an expanded **polyglutamine** stretch
AU Igarashi, Shuichi; Koide, Reiji; Shimohata, Takayoshi; Yamada, Mitsunori; Hayashi, Yasuko; Takano, Hiroki; Date, Hidetoshi; Oyake, Mutsuo; Sato, Toshiya; Sato, Aki; Egawa, Shigekimi; Ikeuchi, Takeshi; Tanaka, Hajime; Nakano, Ryoichi; Tanaka, Keiko; Hozumi, Isao; Inuzuka, Takashi; Takahashi, Hitoshi; Tsuji, Shoji
CS Dep. Neurology, Niigata Univ., Niigata, 1-757, Japan
SO Nature Genetics (**1998**), 18(2), 111-117
CODEN: NGENEC; ISSN: 1061-4036
PB Nature America
DT Journal
LA English
CC 14-14 (Mammalian Pathological Biochemistry)
Section cross-reference(s): 1, 3
AB To elucidate the mol. mechanisms whereby expanded **polyglutamine** stretches elicit a grain of toxic function, we expressed full-length and truncated DRPLA (**dentatorubral-pallidoluysian atrophy**) cDNAs with or without expanded **CAG** repeats in COS-7 cells. We found that truncated DRPLA proteins contg. an expanded **polyglutamine** stretch form filamentous peri- and intranuclear aggregates and undergo apoptosis. The apoptotic cell death was partially suppressed by the **transglutaminase** inhibitors **cystamine** and **monodansyl cadaverine** (but not **putrescine**), suggesting involvement of a **transglutaminase** reaction and providing a potential basis for the development of therapeutic measures for **CAG**-repeat expansion diseases.
ST DRPLA protein **transglutaminase** inhibitor apoptosis; **CAG**

repeat DRPLA protein cytotoxicity; **dentatorubral pallidoluysian atrophy**

IT Proteins, specific or class
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(DRPLA (**dentatorubral-pallidoluysian atrophy**); suppression of aggregate formation and apoptosis by **transglutaminase** inhibitors in cells expressing truncated DRPLA protein with expanded **polyglutamine** stretch)

IT Brain, disease
(**dentatorubral-pallidoluysian atrophy**; suppression of aggregate formation and apoptosis by **transglutaminase** inhibitors in cells expressing truncated DRPLA protein with expanded **polyglutamine** stretch)

IT Apoptosis
(suppression of aggregate formation and apoptosis by **transglutaminase** inhibitors in cells expressing truncated DRPLA protein with expanded **polyglutamine** stretch)

IT Repetitive DNA
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(trinucleotide; suppression of aggregate formation and apoptosis by **transglutaminase** inhibitors in cells expressing truncated DRPLA protein with expanded **polyglutamine** stretch)

IT **80146-85-6, Transglutaminase**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(inhibitors; suppression of aggregate formation and apoptosis by **transglutaminase** inhibitors in cells expressing truncated DRPLA protein with expanded **polyglutamine** stretch)

IT 101985-79-9, d-**CAG**
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(suppression of aggregate formation and apoptosis by **transglutaminase** inhibitors in cells expressing truncated DRPLA protein with expanded **polyglutamine** stretch)

IT **51-85-4, Cystamine 10121-91-2, Monodansyl cadaverine**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(suppression of aggregate formation and apoptosis by **transglutaminase** inhibitors in cells expressing truncated DRPLA protein with expanded **polyglutamine** stretch)

IT **80146-85-6, Transglutaminase**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(inhibitors; suppression of aggregate formation and apoptosis by **transglutaminase** inhibitors in cells expressing truncated DRPLA protein with expanded **polyglutamine** stretch)

RN 80146-85-6 HCAPLUS
CN Glutamyltransferase, glutaminylpeptide .gamma.- (9CI) (CA INDEX NAME)

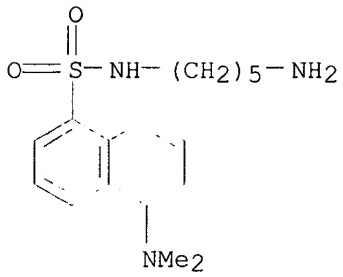
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **51-85-4, Cystamine 10121-91-2, Monodansyl cadaverine**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(suppression of aggregate formation and apoptosis by **transglutaminase** inhibitors in cells expressing truncated DRPLA protein with expanded **polyglutamine** stretch)

RN 51-85-4 HCAPLUS
CN Ethanamine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)

$H_2N-CH_2-CH_2-S-S-CH_2-CH_2-NH_2$

RN 10121-91-2 HCAPLUS
CN 1-Naphthalenesulfonamide, N-(5-aminopentyl)-5-(dimethylamino)- (8CI, 9CI) (CA INDEX NAME)



L112 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN 1993:4253 HCAPLUS
DN 118:4253
TI N.epsilon.(.gamma.-Glutamyl)lysine crosslinks in the blood clot of the horsehose crab, Limulus polyphemus
AU Wilson, James; Rickles, Frederick R.; Armstrong, Peter B.; Lorand, Laszlo
CS Dep. Biochem. Mol. Biol. Cell Biol., Northwestern Univ., Evanston, IL, 60208, USA
SO Biochemical and Biophysical Research Communications (**1992**), 188(2), 655-61
CODEN: BBRCA9; ISSN: 0006-291X
DT Journal
LA English
CC 12-6 (Nonmammalian Biochemistry)
AB Clots were allowed to form in samples of whole blood taken from the American horseshoe carb, Limulus polyphemus, in the absence and presence of **dansylcadaverine**, and were analyzed for their contents of N.epsilon.(.gamma.-glutamyl)lysine and .gamma.-glutamyl-**dansylcadaverine**. Clots obtained without **dansylcadaverine** yielded significant amts. of NE(.gamma.-glutamyl)lysine product. Clots formed in the presence of **dansylcadaverine** yielded only .gamma.-glutamyl-**dansylcadaverine**. Formation of these products reflects on the activity of **transglutaminase** released from the blood cells during coagulation.
ST Limulus hemolymph clotting **transglutaminase**; horseshoe crab hemolymph clotting **transglutaminase**
IT Hemolymph
(clotting of, **transglutaminase** in, in horseshoe crab)
IT Limulus polyphemus
(hemolymph clotting in, **transglutaminase** in)
IT **Blood coagulation**
(of hemolymph of horseshoe crab, **transglutaminase** in)
IT **80146-85-6, Transglutaminase**
RL: BIOL (Biological study)
(in hemolymph clotting in horseshoe crab)
IT **80146-85-6, Transglutaminase**
RL: BIOL (Biological study)
(in hemolymph clotting in horseshoe crab)
RN 80146-85-6 HCAPLUS
CN Glutamyltransferase, glutaminylpeptide .gamma.- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

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L133 ANSWER 1 OF 17 WPIX (C) 2003 THOMSON DERWENT
AN 2003-067630 [06] WPIX
DNC C2003-017707
TI New antiinflammatory peptides are inhibitors of **transglutaminase** and phospholipase A2, useful for treating e.g. autoimmune and degenerative diseases.
DC B04 D21
IN KIM, S Y; SOHN, J H; KIM, S; SOHN, J
PA (KIMS-I) KIM S Y; (SOHN-I) SOHN J H; (KIMS-I) KIM S; (SOHN-I) SOHN J
CYC 99
PI WO 2002085927 A1 20021031 (200306)* EN 30p C07K007-06
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
KR 2002081955 A 20021030 (200317) C07K007-06
ADT WO 2002085927 A1 WO 2002-KR536 20020327; KR 2002081955 A KR 2001-21598 20010421
PRAI KR 2001-21598 20010421
IC ICM C07K007-06
AB WO 200285927 A UPAB: 20030124
NOVELTY - Antiinflammatory peptides which are inhibitors of **transglutaminase** and phospholipase A2 are new.
DETAILED DESCRIPTION - Peptides having the amino acid sequence of SEQ ID NO:1 (KVLD-PVKG); SEQ ID NO:2 (KVLDGQDP); or SEQ ID NO:3 (DPVKG); and their derivatives (where at least 1 side chain amine group of the peptide is acylated or arylated, or at least 1 hydroxyl group is esterified to an alkyl or aryl group) and analogs (containing at least 1 amino acid mimetic, which reduces proteolytic cleavage of the analog compared to the peptide), which have antiinflammatory activity and are inhibitors of **transglutaminase** and phospholipase A2, are new.
ACTIVITY - Antiinflammatory; antiulcer; antirheumatic; antiarthritic; dermatological; dermatological; immunosuppressive; antidiabetic; antiallergic; tranquilizer; vulnerary; antiparkinsonian; nootropic; anticonvulsant; neuroprotective; analgesic. In a model of allergic conjunctivitis to ragweed in guinea pig, giant ragweed pollen was delivered into the nostrils and inferior conjunctival fornices of 84 animals on days 1-5 and 8-12, once daily. On day 15, immunized guinea pigs

were divided into 14 groups. Groups were treated with a new recombinant, dexamethasone eye drops or anti-histamine eye drops. A control group was untreated. All immunized guinea pigs were challenged with ragweed pollen powder delivered to the inferior conjunctival fornice on day 15. Conjunctival edema and redness were evaluated. Peptide SEQ ID NO:2, dexamethasone and Livostin (RTM: an anti-histamine eye drop) were most effective.

MECHANISM OF ACTION - **Transglutaminase** inhibitors; phospholipase A2 inhibitors. In a test to determine inhibitory effect of peptides on PLA2, by measuring release of (14C)-arachidonic acid from 1-acyl-2-(1 14C)arachidonic acid-glycerophospho-ethanolamine, the peptide having the amino acid sequence SEQ ID NO:1 showed about 85% inhibition.

USE - For treating inflammatory diseases, including autoimmune diseases, e.g. ulcerative colitis, rheumatoid arthritis, scleroderma, inflammatory lung disease, celiac disease, systemic lupus, myasthenia gravis and diabetes; allergic or immune diseases, e.g. skin allergy, pimples and trauma; and degenerative diseases, e.g. Parkinson's disease, **Huntington**'s disease and Alzheimer's disease; also painful and nervous diseases (all claimed).

ADVANTAGE - The peptides show much higher antiinflammatory activity than the conventional antiflammins and other antiinflammatory drugs, and do not have the harmful side effects of steroidal antiinflammatory drugs.

Dwg.0/6

FS CPI
FA AB; DCN
MC CPI: B04-C01A; B04-C01B; B04-N04; B14-C01; B14-C03; B14-C09B; **B14-D06**; B14-D07A; B14-E10C; B14-G02A; B14-G02D; **B14-J01A**; B14-J05; B14-K01; B14-N17; B14-S04; D08-B09A1
TECH UPTX: 20030124

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preparation: Peptides were synthesized using an automatic peptide synthesizer, and purified by reverse phase HPLC.

ABEX UPTX: 20030124

ADMINISTRATION - Administration is by conventional routes. Adult dosage is 0.001-2 g/kg.

L133 ANSWER 2 OF 17 WPIX (C) 2003 THOMSON DERWENT
AN 2002-608452 [65] WPIX
DNC C2002-172053
TI New isolated nucleic acids of **transglutaminase** (TGM) A and TGMB residing on chromosome 15 and 20, respectively, useful for treating **Huntington**'s disease.
DC B04 D16
IN GURNEY, M; HANNESSON, H H
PA (DECO-N) DECODE GENETICS INC
CYC 100
PI WO 2002059265 A2 20020801 (200265)* EN 97p C12N000-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
ADT WO 2002059265 A2 WO 2001-US50405 20011221
PRAI US 2000-257754P 20001221
IC ICM C12N000-00
AB WO 200259265 A UPAB: 20021010

NOVELTY - An isolated nucleic acid molecule (I) comprising:

(1) a nucleic acid encoding a **transglutaminase** (TGM) selected from TGMA or TGMB; or

(2) a nucleotide sequence selected from 5 sequences with 1984-54794 base pairs or their complements, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a nucleic acid molecule (II) which hybridizes under high stringency conditions to a nucleotide sequence from sequences comprising 1984-2103 base pairs;

(2) a vector (III) comprising the isolated nucleic acid molecule, operatively linked to a regulatory sequence;

(3) a recombinant host cell (IV) comprising (III);

(4) preparing (M1) a polypeptide encoded by an isolated nucleic acid molecule;

(5) an isolated TGM (V) of interest selected from TGMA or TGMB;

(6) an isolated polypeptide (VI), which is encoded by (I) and which is greater than about 90 percent identical to a sequence comprising 589-701 amino acids;

(7) an antibody (VII) or its antigen-binding fragment that selectively binds to the polypeptide encoded by the isolated nucleic acid molecule or to a portion of the polypeptide;

(8) identifying (M2) an agent that alters activity or expression of the TGM of interest;

(9) an agent (VIII) that alters the interaction of the TGM of interest with the substrate or the expression of the TGM of interest;

(10) altering (M3) expression of the TGM of interest, which comprises contacting a cell containing the TGM of interest with an agent that alters expression of the TGM of interest;

(11) a pharmaceutical composition (IX) comprising the isolated nucleic acid molecule, an antibody to a TGM of interest and/or (VIII); or

(12) treating (M4) **Huntington**'s disease in an individual, which comprises administering to the individual a TGM therapeutic agent.

ACTIVITY - Neuroprotective.

No suitable data given.

MECHANISM OF ACTION - Factor XIII-Antagonist; Gene therapy.

USE - (I) is useful as a molecular weight markers on Southern gels, as chromosome markers which are labeled to map related gene positions. Further it is useful for deriving primers for genetic fingerprinting, for raising anti-polypeptide antibodies using DNA immunization techniques or as antigen for raising anti-DNA antibodies or for eliciting immune responses. Additionally, the nucleotide sequences are useful for generating TGMs for identifying agents which alter the activity or expression of TGMs (claimed), for identifying and expressing recombinant polypeptides for analysis, characterization or therapeutic use, as markers for tissues in which the corresponding polypeptide is expressed. The TGM therapeutic agent is useful for treating **Huntington**'s disease (claimed).

Dwg.0/8

FS CPI

FA AB; DCN

MC CPI: B04-C01G; B04-E02E; B04-E05; B04-E08; B04-F0100E; B04-G01; B04-L04; B11-C08D; B11-C08E3; B12-K04E; **B14-J01A4**; B14-L06; **B14-S03**; D05-C03D; D05-H09; D05-H11; D05-H12A; D05-H12D1; D05-H12E; D05-H14; D05-H17A3

TECH UPTX: 20021010

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Agent: The TGM therapeutic agent is a TGM antagonist.

Preferred Method: (M2) (identifying an agent that alters the activity of the TGM) comprises:

(a) contacting the TGM of interest or its active derivative or fragment with an agent to be tested;

(b) assessing the interaction or level of activity of the TGM of interest or its active derivative or fragment; and

(c) comparing the level of interaction or activity with a level of interaction or activity of the TGM of interest or its active derivative or fragment in the absence of the agent; where if the level of interaction or activity of the TGM of interest or its active derivative or fragment in

the presence of the agent differs, by an amount that is statistically significant, from the level of interaction or activity in the absence of the agent, then the agent is an agent that alters the interaction of the TGM of interest with the substrate or that alters the activity of the TGM of interest.
(M2) (identifying an agent that alters the expression of a TGM) comprises:
(a) contacting a cell containing (II) with an agent to be tested;
(b) assessing the level of expression of the nucleic acid; and
(c) comparing the level of expression with a level of expression of the nucleic acid in the absence of the agent, where if the level of expression in the presence of the agent differs, by an amount that is statistically significant, from the level of expression in the absence of the agent, then the agent is an agent that alters expression of the TGM of interest.
Preparation: Preparing a polypeptide encoded by the isolated nucleic acid molecule comprises culturing the recombinant host cell for expression of the nucleic acid molecule. The nucleic acid molecule of the invention is isolated by standard molecular biology techniques.

ABEX UPTX: 20021010

SPECIFIC SEQUENCES - The nucleic acid encoding TGMA encodes a 589-amino acid sequence, while the nucleic acid encoding TGMB encodes a sequence with 701 or 692 amino acids (claimed).

ADMINISTRATION - (IX) can be administered via intracranial, intradermal, intramuscular, intraperitoneal, intraocular, intravenous, subcutaneous, topical, oral or intranasal. No dosage given.

EXAMPLE - TBLASTN was used to search the protein sequences of **transglutaminase** (TGM) (TGM) 1, TGM2, TGM3, TGM4, TGM5 or Factor XIIIA against the high-through put human genome sequence publicly deposited in Genbank. This revealed a novel TGM gene in a contiguous genomic sequence of approximately 184000 bp that also contained the TGM5 and erythrocyte band 4.2 protein (EPB42) genes. The EPB42 gene was previously mapped to human chromosome 15q15-21 suggesting that all three genes mapped to the same location on 15q15. The protein encoded by the novel TGM gene contained a canonical TGM active site motif (YGQCWVFA) and was most closely related to TGM5. The novel gene contained at least 11 exons with an intron/exon pattern like that of the TGM5 gene. It encoded a predicted protein of at least 706 amino acids. Experiments were performed to detect expression in brain of mRNA transcripts from the novel TGM gene on human chromosome 15q15. The sequence of the amplified PCR product was confirmed by direct sequencing and corresponded to the predicted DNA sequence of 2315 base pairs. An aliquot of the PCR product was loaded onto a 2.5% Metaphor Agarose (BMA) gel, electrophoresed for 45 minutes at 80V, 135 mA, stained with ethidium bromide and photographed. The nucleotide sequences were determined using the ABI Sequencing Analysis software. The sequence of the polymerase chain reaction (PCR) amplifier was compared to the cDNA and genomic sequences and found to be an exact match.

L133 ANSWER 3 OF 17 WPIX (C) 2003 THOMSON DERWENT
AN 2002-464754 [50] WPIX
DNC C2002-132363
TI Compositions for treating immunological and neurological conditions contain **transglutaminase** inhibitors.
DC B04 D13
IN BOUMANS, J W L; DE JONG, G A H; WIJNGAARDS, G
PA (NEDE) NEDERLANDSE ORG TOEGEPAST
CYC 99
PI EP 1201136 A1 20020502 (200250)* EN 15p A23J001-20
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
WO 2002035942 A1 20020510 (200250) EN A23J001-20
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2002024202 A 20020515 (200258) A23J001-20

ADT EP 1201136 A1 EP 2000-203778 20001031; WO 2002035942 A1 WO 2001-NL795 20011030; AU 2002024202 A AU 2002-24202 20011030

FDT AU 2002024202 A Based on WO 200235942

PRAI EP 2000-203778 20001031

IC ICM A23J001-20
ICS A23C009-14; A23J003-08; A23L001-305

AB EP 1201136 A UPAB: 20020807
NOVELTY - Compositions comprising milk-derived **transglutaminase** inhibitors, useful for treating immunological and neurological diseases are new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:
(1) a process for obtaining **transglutaminase** inhibitors from milk by separating and collecting the whey by centrifugation; and
(2) a process for obtaining **transglutaminase** inhibitors from skimmed milk by using diafiltration step.
ACTIVITY - Nootropic; Neuroprotective; Ophthalmological; Anti-HIV; Dermatological; Antiinflammatory; Antidiabetic; Anticonvulsant.
MECHANISM OF ACTION - **Transglutaminase** inhibitors.
USE - Useful for controlling the crosslinking activity of proteins by **transglutaminase** and in the production of food to counteract the toxic effects of **transglutaminase**. For treating immunological and neurological diseases e.g. Alzheimer's disease, hemophilia, apoptosis, celiac disease, **Huntington**'s disease, dermatological diseases, cataracts, Kennedy's disease, **dentatorubral-pallidoluysian atrophy**, multiple sclerosis, rheumatoid arthritis, diabetes, tetanus, Rett's syndrome and HIV infections.
ADVANTAGE - Unlike existing **transglutaminase** inhibitors, those derived from milk are non-toxic and may therefore be used in foods and pharmaceuticals. These inhibitors prevent the need to denature **transglutaminases** by heating where an unwanted change in biological and chemical properties may also be possible.
Dwg.0/4

FS CPI

FA AB; DCN

MC CPI: B04-B04K; B04-M01; B14-A01B; B14-A02B1; B14-C09B; B14-E10; B14-F08; B14-H04; **B14-J01A4**; B14-N03; B14-N17; B14-S01; B14-S04; D03-B; D03-H01T2

TECH UPTX: 20020807
TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Process: Cow, goat or sheep milk is pre-treated by heating to above 80degreesC and is curdled by acidification to pH 4-4.6 (for foods, preferably using food-grade acids or acidifying microbes). The whey is centrifuged and ultrafiltered /diafiltered before concentrating and lyophilization. The inhibitor is purified by gel filtration and/or ion-exchange chromatography. The inhibitor has a molecular weight of 200 Daltons. Optionally, lactose is removed.

ABEX UPTX: 20020807
ADMINISTRATION - Given orally. No dosage is stated.

L133 ANSWER 4 OF 17 WPIX (C) 2003 THOMSON DERWENT

AN 2002-444364 [47] WPIX

DNC C2002-126556

TI New amino acid or peptide derivatives or analogs, are selective **transglutaminase** inhibitors useful e.g. for treating cataract, inflammatory diseases, rheumatoid arthritis, thrombosis, Alzheimer's disease and cancer.

DC B05

IN FUCHSBAUER, H; PASTERNACK, R; ZOTZEL, J

PA (NZYM-N) N ZYME BIOTEC GMBH; (NZYM-N) N-ZYME BIOTECH GMBH
CYC 98
PI WO 2002036798 A2 20020510 (200247)* DE 44p C12P013-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
DE 10054687 A1 20020516 (200247) C07K005-06
AU 2002014038 A 20020515 (200258) C12P013-00
US 2002132776 A1 20020919 (200264) A61K038-10
ADT WO 2002036798 A2 WO 2001-EP12727 20011102; DE 10054687 A1 DE 2000-10054687 20001103; AU 2002014038 A AU 2002-14038 20011102; US 2002132776 A1 US 2001-4110 20011102
FDT AU 2002014038 A Based on WO 200236798
PRAI DE 2000-10054687 20001103
IC ICM A61K038-10; C07K005-06; C12P013-00
ICS A61K038-05; A61K038-06; A61K038-07; A61K038-08; C07K005-10
AB WO 200236798 A UPAB: 20021031
NOVELTY - Amino acid or peptide derivatives or analogs (I), containing a modified side-chain (e.g. containing a formyl group), are new.
DETAILED DESCRIPTION - Amino acid or peptide derivatives or analogs of formula (I) are new.
R1 = -CH(NH-R'1)-C(O)-R''1 or -X(R5)(R6);
X = O, N or P;
R'1 = -B'q-R4 ; and
R''1 = A'p-R3; or
R'1+R''1 = -C'r-;
R2 = H, alkyl (optionally substituted by halo or N2) or NH2;
m, s = 0-3;
n = 0-1;
A'p, B'q, C'r = amino acid chains (p, q and r being the number of amino acids), and A', B' and/or C' may also contain at least one side-chain of formula -(CH2)nYn(CH2)sC(Z')R2;
p, q, r = 0-1000;
R3, R4 = H, alkyl, aryl, heterocyclyl, amino-protecting group or carboxy-protecting group;
R5, R6 = alkyl (optionally containing at least one of N, O and S as heteroatom), aryl or heterocyclyl; and may be connected to form a ring;
Y = O, S or NH;
Z' = O, S or NR7; and
R7 = H, alkyl, aryl, heterocyclyl, alkoxy, aryloxy, heterocyclyloxy, N(R)2 or NHCON(R)2;
provided that 3-(R1)-propionamide, 2-(R1)-acetamide and methyl N-(2-(benzyloxycarbonylamino)-3-(chloroacetoxy)-propionyl)-glycinate are excluded.
ACTIVITY - Ophthalmological; Antiinflammatory; Antirheumatic; Antiarthritic; Thrombolytic; Neuroprotective; Nootropic; Antiseborrheic; Dermatological; Cytostatic; Anti-HIV; Antipsoriatic.
MECHANISM OF ACTION - **Transglutaminase** Inhibitor; Factor XIII/XIIIa Inhibitor. Carbobenzoxy-L-serinyl-glycine- beta -chloroacetyl ester (Ia) inhibited tissue **transglutaminase** by 91% at a concentration of 5 mM and bacterial **transglutaminase** by 98% at a concentration of 0.5 mM.
USE - (I) Are **transglutaminase** inhibitors, especially inhibitors of crosslinking of proteins or peptides (specifically fibrin and/or alpha 2-plasmin inhibitor), incorporation of primary amines in proteins and peptides, hydrolysis of the gamma -carboxamido group of glutamine residues bound in proteins or peptides, blood factor XIII/XIIIa and mammalian, human, tissue, liver, brain, eye lens, keratinocyte, epidermal, prostate, plant, parasitic and/or bacterial **transglutaminases**, and are used for treating cataract,

inflammatory diseases, rheumatoid arthritis, chronic arthritis, thrombosis, Alzheimer's disease, **Huntington**'s chorea, acne, cancer (by induction of apoptosis), HIV infections and psoriasis (all claimed).

ADVANTAGE - (I) Are targeted and specific **transglutaminase** inhibitors, which can inhibit a specific type of **transglutaminase** in the human or animal body without affecting other **transglutaminases**.

Dwg.0/0

FS CPI

FA AB; GI; DCN

MC CPI: B04-C01; B04-L01; B04-N04; B14-C03; B14-C09; B14-D07C; B14-F04; B14-G02; B14-H01; **B14-J01A4**; B14-L06; B14-N03; B14-N17

TECH UPTX: 20020725

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preparation: (I) are prepared e.g. by:

(a) synthesizing a linear or cyclic peptide using conventional chemical or molecular biological methods, then modifying the product by chemical or enzymatic methods (e.g. by conversion of a carbamoyl substituent to formyl); or

(b) synthesizing a linear or cyclic peptide starting from an inhibitor building block amino acid residue containing the required side-chain functional group (optionally in protected form).

ABEX UPTX: 20020725

SPECIFIC COMPOUNDS - 30 Compounds (I) are specifically disclosed, e.g. carbobenzoxy-L-serinyl-glycine-beta-chloroacetyl ester (Ia).

ADMINISTRATION - Administration of (I) is oral, rectal, intranasal, topical, intravaginal, intraarticular or parenteral. Claimed pharmaceutical compositions containing (I) optionally also contain an anticoagulant or other active agent, specifically a fibrinolytic, fibrinogenolytic or thrombolytic agent selected from tPA, uPA, plasmin, streptokinase, eminase, hementin, hementerin, staphylokinase and batPA.

EXAMPLE - A solution of 200 mg carbobenzoxy-L-serinyl-glycine in 5 ml tetrahydrofuran was treated with 90 microl chloroacetyl chloride at 0 degrees C, stirred for 2 hours at 0 degrees C then for 5 days at room temperature and partitioned between ice-water and ethyl acetate. The organic phase was worked up to give 152 mg (61%) of carbobenzoxy-L-serinyl-glycine-beta-chloroacetyl ester (Ia).

DEFINITIONS - Preferred Definitions:
n, s = 0-1;
Z' = O or S; and
R2 = H, Me, halomethyl or diazomethyl.

L133 ANSWER 5 OF 17 WPIX (C) 2003 THOMSON DERWENT

AN 2002-329954 [36] WPIX

DNN N2002-258907 DNC C2002-095469

TI Nucleic acids which encode novel **transglutaminase** enzymes TG-Z and TG-Y which can be used in diagnostic methods of autoimmune diseases.

DC B04 D16 S03

IN AESCHLIMANN, D P; GRENARD, P M

PA (UYCA-N) UNIV COLLEGE CARDIFF

CYC 97

PI WO 2002022830 A2 20020321 (200236)* EN 67p C12N015-54
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001087860 A 20020326 (200251) C12N015-54

ADT WO 2002022830 A2 WO 2001-GB4120 20010914; AU 2001087860 A AU 2001-87860 20010914
FDT AU 2001087860 A Based on WO 200222830
PRAI GB 2001-11995 20010516; GB 2000-22768 20000915
IC ICM C12N015-54
ICS C07K016-18; C12N009-10; C12Q001-48; G01N033-53
AB WO 200222830 A UPAB: 20020610
NOVELTY - Nucleic acids which encode novel polypeptides having **transglutaminase** activity, are new.

DETAILED DESCRIPTION - Nucleic acids which encode novel polypeptides having **transglutaminase** activity, are new.

The nucleic acid (N1) is selected from:

(a) nucleotide sequence comprising at least a portion of the 2317 (I), 2312 (II), 2239 (III), or 2105 (IV) nucleotide sequences defined in the specification;

(b) a nucleotide sequence which hybridizes to (I), (II), (III) or (IV); or

(c) a nucleotide sequence which is degenerate to the nucleotide sequence (I), (II), (III) or (IV).

INDEPENDENT CLAIMS are also included for the following:

(1) a nucleotide sequence (N2) which hybridizes under stringent conditions to (I), (II), (III) or (IV) and which encodes a polypeptide having **transglutaminase** activity;

(2) a method (M1) of expressing a polypeptide comprising inserting N1 or N2 into a suitable host and expressing that nucleotide sequence in order to express a polypeptide having **transglutaminase** activity;

(3) a vector comprising N1 or N2;

(4) a polypeptide (P1) having an amino acid sequence comprising at least a portion of the 710 (V), 710 (VI), 708 (VII) or 627 (VIII) amino acid sequence defined in the specification and which has **transglutaminase** activity;

(5) a composition comprising P1 suitable for use in cross-linking proteins;

(6) an antibody directed against P1;

(7) a method (M1) of gene therapy comprising correcting mutations in a non wild type nucleotide sequence corresponding to a nucleotide sequence of (I) to (IV);

(8) a method of diagnosis or autoimmune disease comprising taking a sample from a subject and testing that sample for the presence of a **transglutaminase** encoded by the nucleotide sequences of (I, II, III, IV) or their portions;

(9) a competitive protein binding assay (CPBA) for the differential diagnosis of autoimmune diseases comprising the detection of antibodies against the **transglutaminase** encoded by the nucleotide sequences of (I, II, III, IV) or their portions; and

(10) a diagnostic method comprising detecting expression of P1 in a subject or in cells derived from a subject.

USE - The compositions of polypeptide (P1) are useful for transamidation reactions on peptides and polypeptides. Detection of the polypeptides (P1) and (P2) is useful in a diagnostic method in a subject or in cells derived from a subject having an autoimmune disease. Method (M1) may be used to diagnose autoimmune diseases which include Addison's disease, AI haemolytic anaemia, AI thrombocytopenic purpara, AI thyroid diseases, **atrophic** gastritis - pernicious anaemia, Chron's disease, colitis ulcerosa, Goodpasture syndrome, IgA nephropathy or IgG glomerulonephritis, myasthenia gravis, partial lipodystrophy, polymyositis, primary biliary cirrhosis, primary sclerosing cholangitis, progressive systemic sclerosis, recurrent pericarditis, relapsing polychondritis, rheumatoid arthritis, rheumatism, sarcoidosis, Sjogren's syndrome, SLE, splenic **atrophy**, type I (insulin-dependent) diabetes mellitus, Wegener granulomatosis, ulcerative colitis, vasculitis (both systemic and cutaneous), vitiligo (all claimed).

ADVANTAGE - The invention provides new methods of diagnosing

autoimmune diseases.
Dwg.0/11
FS CPI EPI
FA AB; DCN
MC CPI: B04-C01; B04-E03E; B04-E08; B04-F1100E; B04-G01; B04-G03; B04-L0400E; B04-N0200E; B11-C07A; B12-K04A; **B14-S03**; D05-H08; D05-H09; D05-H11; D05-H12A; D05-H12E; D05-H17A3; D05-H17A6
EPI: S03-E14H4
TECH UPTX: 20020610
TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Polypeptide: P1 is at least 90% identical to the amino acid sequence of (V), (VI), (VII) or (VIII). The amino acid sequence may differ from (V), (VI), (VII) or (VIII) by about 1 to 20 amino acid additions, deletions or substitutions. It comprises exon VII through to exon X of (V) or (VI). Alternatively, it comprises exon II through to exon IV of sequences (VII) or (VIII). Alternatively, it comprises exon X through to exon XII or the sequence (VII or VIII).
Preferred Assay: The assay comprises non-endogenous **transglutaminase** TG-Z or TG-Y, or both as a competitive antigen. The binding assay is a competitive immunoassay selected from RIA (radioimmunoassay), EIA/ELISA, LiA and FiA.
ABEX UPTX: 20020610
SPECIFIC SEQUENCES - (I) is the nucleotide sequence for human TG-Z which comprises 2312 nucleotide base pairs as given in the specification. (II) is the alternative nucleotide sequence for human TG-Z which comprises 2312 base pairs as given in the specification.
(V) is the deduced amino acid sequence for human TG-Z which comprises 710 amino acids as given in the specification. (VI) is an alternative deduced amino acid sequence for human TG-Z which comprises 710 amino acids as given in the specification.
(III) is the nucleotide sequence for the long form of TG-Y comprising 2237 nucleotide base pairs as given in the specification. (IV) is the nucleotide sequence for the short form of TG-Y comprising 2105 base pairs as given in the specification.
(VII) is the deduced amino acid sequence for the long form of TG-Y as given in the specification. (VIII) is the deduced amino acid sequence for the short form of TG-Y as given in the specification.

EXAMPLE - A human BAC library established in a F-factor-based vector, pBeloBAC11, and maintained in Eschericia coli was screened by polymerase chain reaction (PCR). A 147bp DNA fragment unique to TG-X was amplified from genomic DNA. Two positive clones were identified BAC-33(P5) and BAC-228(P20) and their identity verified by Southern blotting.

L133 ANSWER 6 OF 17 WPIX (C) 2003 THOMSON DERWENT
AN 2001-102934 [11] WPIX
DNN N2001-076384 DNC C2001-030193
TI Diagnosing gluten sensitive enteropathy, such as Crohn's disease, Addison's disease and Sjogren's syndrome involves testing the sample for antibodies against human tissue **transglutaminase**, or other glutaminases.
DC B04 D16 S03
IN AESCHLIMANN, D; KARPATI, S; ODENTHAL, U; PAULSSON, M; SARDY, M; SMYTH, N
PA (IMMU-N) IMMUNDIAGNOSTIK AG; (PAUL-I) PAULSSON M; (WIES-N) WIESLAB AB
CYC 23
PI WO 2001001133 A2 20010104 (200111)* EN 37p G01N033-53
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU CA DE JP US
AU 2000058214 A 20010131 (200124) G01N033-53
EP 1200827 A2 20020502 (200236) EN G01N033-564
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
ADT WO 2001001133 A2 WO 2000-EP6025 20000628; AU 2000058214 A AU 2000-58214 20000628; EP 1200827 A2 EP 2000-943925 20000628, WO 2000-EP6025 20000628

FDT AU 2000058214 A Based on WO 200101133; EP 1200827 A2 Based on WO 200101133
PRAI EP 1999-111975 19990628
IC ICM G01N033-53; G01N033-564
AB WO 200101133 A UPAB: 20010224
NOVELTY - Diagnosing autoimmune disease of gluten sensitive enteropathy (GSE)-type or associated with GSE, involves taking a sample from the individual, and testing the sample for antibodies against human **transglutaminase** and at least one other **transglutaminase** molecule.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a comparative protein binding assay for a differential diagnosis of autoimmune diseases, which involves detecting antibodies against **transglutaminase**, where the protein binding assay comprises recombinant human tissue **transglutaminase** as antigen.

USE - The method is useful for diagnosing GSE-type autoimmune diseases or autoimmune diseases associated with GSE, e.g. Addison's disease, Al hemolytic anemia, Al thrombocytopenic purpura, Al thyroid diseases, **atrophic** gastritis-pernicious anemia, Crohn's disease, colitis ulcerosa, Goodpasture's syndrome, IgA nephropathy or IgA glomerulonephritis, myasthenia gravis, partial lipodystrophy, polymyositis, primary biliary cirrhosis, primary sclerosing cholangitis, progressive systemic sclerosis, recurrent pericarditis, relapsing polychondritis, rheumatoid arthritis, rheumatis, sarcoidosis, Sjogren's syndrome, SLE, splenic **atrophy**, diabetes mellitus, Wegener granulomatosis, ulcerative colitis, vasculitis (both systemic and cutaneous) or vitiligo. Autoimmune diseases associated with infertility, increased risk of abortion and reducing fetal growth are also diagnosed.

ADVANTAGE - The method provides an improved an step of GSE and allows a differential diagnosis of autoimmune diseases of GSE-type, autoimmune diseases associated with GSE and seemingly non-active, latent GSE.

Dwg.0/12
FS CPI EPI
FA AB; DCN
MC CPI: B04-B04C2; B04-B04D4; B04-G03; B04-L08; B04-L0800E; B11-C07A; B11-C07A1; B11-C07A4; B12-K04A; D05-A01A; D05-A01B6; D05-H07; D05-H09; D05-H11
EPI: S03-E14H4
TECH UPTX: 20010224
TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Protein: A tissue specific **transglutaminase** is used as antigen for protein binding assay. The **transglutaminase** is FXIIIA, TGk, TGe, TGx or band 4.2. **Transglutaminase** is obtained from different species and is a recombinant fusion protein or fragment. The binding assay is an immunoassay such as Radio immunoassay (RIA), Enzyme linked assay(EIA)/Enzyme linked immunosorbent assay (ELISA), Luminescence immunoassay (LiA) or fluorescence immunoassay (FiA). The binding assay is preferably a sandwich-immunoassay such as immunoradiometric assay (IRMA), Immunoenzyme assay (IEMA)/EUA, ILMA (immunoluminescence assay), or IFMA (immunofluorescence assay).
ABEX UPTX: 20010224
EXAMPLE - Serum samples were taken from 71 patients with GSE, 26 with non-Crohn's disease (CD) gastrointestinal diseases and 27 with other diagnoses like autoimmune diseases. The optimal coating concentration of human TGc was 1 mug per well. Using highly positive sera from 4 patients for calibration, a log-linear curve was seen between dilutions of 1:250 and 1:32000. 4 negative sera showed some signal at lower dilutions(greater than 1:500). Some positive sera showed a signal plateau at dilutions of 1:250 or less. The ratio between the mean OD values of positive and negative results at the dilution of 1:125 was 1:6, while at greater dilutions more than 1:10. Hence in the assay a serum dilution of 1:250 was used. One positive and one negative reference serum sample was included in each assay to control the test performance. The positive serum was used as standard, and the optical density results were given as arbitrary units

(AU) calculated as a percentage of the standard serum. The mean intra-and interassay coefficients of variation for the standard serum were 1.3% and 13.7% respectively. The mean intra- and interassay coefficients of variation for human TGc ELISA were 3.2% (n=124) and 9.2% (n=15), respectively. The median antibody concentrations for the patients with untreated GSE was 61.4 AU (n=55,95% Cl:45.1-78.5), and for controls 12 AU (n=53,95% Cl:10.8-13), where the difference was significant (p less than 0.0001). For treated patients, the median of antibody concentrations was 48.1 AU (n=16,95% Cl:20.8-85.6), for controls with gastrointestinal diseases 12.1 AU (n=26,95% Cl:9.8-14.7), for healthy individuals and controls with other diagnoses 12 AU (n=27,95% Cl:10.7-13.0), respectively. The area under the ROC curve was 0.999 (95% Cl: 0.996-1.001; 95% Cl with BCa method: 0.990-1.0). A cut-off value of 18 AU was chosen, and sera with antibody concentrations equal or higher than 18 AU were labeled as human TGc ELISA positive. This cut-off value gave a specificity and a sensitivity of 98.1% (95% Cl: 95.7-100%) and 98.2% (95% Cl: 95.9-100%), respectively (treated patients excluded). The coincidence of the human TGc assay with the clinical diagnosis (excluding treated patients) was 106/108 (98.1%), giving one false positive and one false negative result.

L133 ANSWER 7 OF 17 WPIX (C) 2003 THOMSON DERWENT
AN 2000-256984 [22] WPIX
DNC C2000-078553
TI Gene therapy for prostate cancer in humans comprises administering a promoter for prostate specific **transglutaminase** gene operably linked to specific genes.
DC B04 D16
IN AN, G; VELTRI, R
PA (UROC-N) UROCOR INC
CYC 87
PI WO 2000014234 A1 20000316 (200022)* EN 149p C12N015-12
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW
AU 9958156 A 20000327 (200032) C12N015-12
ADT WO 2000014234 A1 WO 1999-US20544 19990907; AU 9958156 A AU 1999-58156 19990907
FDT AU 9958156 A Based on WO 200014234
PRAI US 1998-99338P 19980908
IC ICM C12N015-12
ICS A61K048-00; C07K014-47; C12N009-10; C12N015-55; C12Q001-68
AB WO 200014234 A UPAB: 20000508
NOVELTY - Gene therapy for prostate cancer in humans by using the promoter (P1) for prostate specific **transglutaminase** gene operably linked to specific genes, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) An isolated nucleic acid (I) comprising between 20 and 1453 nucleotides of the 1453 nucleotide sequence (N1) given in the specification.
(2) an isolated nucleic acid (II) comprising a P1;
(3) a P1 isolated from N1;
(4) an expression vector comprising a P1 operably linked to a selected gene;
(5) a composition comprising an isolated nucleic acid sequence having the N1 sequence or an isolated nucleic acid complementary to the N1 sequence;
(6) a genetic vaccine comprising a P1 operably linked to a selected gene;
(7) a method for identifying a prostate specific promoter comprises:

(a) providing either a nucleic acid probe of a sequence selected from prostate specific **transglutaminase** such as cytokeratin 15 or semenoelin II or a nucleic acid probe of a sequence identical to or fully complementary with the sequence of N1;

(b) screening a human genomic library with the probe;

(c) identifying a clone that hybridizes under high stringency conditions with the probe; and

(d) confirming that the clone comprises a prostate specific promoter;

(8) a method of identifying protein binding factors for a prostate specific promoter comprises:

(a) providing an isolated, double-stranded nucleic acid molecule comprising the N1 sequence;

(b) providing nuclei from cells of prostate origin;

(c) extracting proteins from the nuclei;

(d) allowing the proteins to bind specifically to the nucleic acid molecule;

(e) removing unbound proteins;

(f) isolating proteins bound specifically to the nucleic acid molecule; and

(g) identifying the proteins;

(9) a method of identifying regulatory sequence within the promoter of prostate specific **transglutaminase** comprises:

(a) providing an isolated, double-stranded nucleic acid molecule comprising the N1 sequence;

(b) making at least one deletion mutant of the nucleic acid, where the deletion mutant is missing a portion of N1, where the portion is between 10 and 1350 basepairs in length;

(c) operably linking the deletion mutant to a reporter gene; and

(d) assaying the amount of expression of the reporter gene linked to the deletion mutant; where the presence of a regulatory sequence within the deleted portion of N1 is indicated by a change in the expression of the reporter gene, compared to the reporter gene operably linked to the full-length sequence of N1;

(10) a method of treating individuals with prostate cancer comprises:

(a) identifying regulatory protein that specifically binds to the promoter of prostate specific **transglutaminase**;

(b) identifying an activator or inhibitor of the regulatory protein; and

(c) providing an individual with prostate cancer an effective amount of the activator or inhibitor.

USE - P1 is useful in gene therapy of prostate cancers or benign prostatic hyperplasia (BPH) in humans.

Dwg.0/3

FS CPI

FA AB; DCN

MC CPI: B04-E03; B04-E04; B04-E05; B04-E08; B04-F1100E; B04-H01; B11-C08E; B12-K04E; B12-K04F; B14-H01; **B14-S03**; B14-S11C; D05-H07; D05-H09; D05-H12A; D05-H12D5; D05-H12E

TECH UPTX: 20000508

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Nucleic Acid: The promoter of (II) comprises the sequence of N1.

Preferred Vector: P1 comprises the sequence of N1. The gene encodes a prostate specific **transglutaminase** such as cytokeratin 15 or semenoelin II; thymidine kinase, p53, cytosine deaminase, PNP (undefined), fibroblast growth factor 2 (FGFR2), nitroreductase, PTEN (undefined), FHIT (undefined), KAI1, diptheria toxin, cytokine, anti-bcl-2 ribozyme, an antisense c-myc RNA, E-cadherin, **polyglutamine**, hepatitis B surface antigen, herpes simplex glycoprotein, HIV envelope proteins, hemagglutinin, malaria circumsporozite protein, carcinoembryonic antigen, prostate-specific membrane antigen (PMSA), prostate stem cell antigen (PSCA), caveollin, POV1, HER2/neu or p27KIP2.

Preferably the gene encodes a humanized antibody such as Herceptin RTM. The humanized antibody binds specifically to PMSA, PSCA, caveollin, POV1,

HER2/neu or p27KIP2.
Preferably, a portion of the sequence of N1 is deleted between nucleotides 10 and 1350 or the promoter comprises nucleotides 20 to 1453 of N1. The vector further comprises an enhancer such as prostate specific antigen (PSA) enhancer.
Preferred Method: In the method of (9), the regulatory protein is identified by searching sequence of N1 for sequences homologous with DNA-binding sites for known regulatory proteins. The regulatory protein binds to a site selected from GATA1, LMO2COM, CEBPB, XFD1, SRY, HFH2, HNF3B, RFX1, CMYB, ATF, NF1, S8, AP1, MZF1, AP2, BRN2, SP1, SRF, PADS, AP4, CAC binding, GFI1, OCT1, GR, TFIID, c-Myc, RORA1, VBP, AP4, IK2, Sp1, Tjian, GC Box and CP2.
Alternatively, the method comprises providing the individuals with a eukaryotic expression vector comprising a P1 operably linked to a selected gene.
The gene encodes a prostate specific **transglutaminase** such as cytokeratin 15 or semenoelin II;
thymidine kinase, p53, cytosine deaminase, PNP, fibroblast growth factor 2 (FGFR2), nitroreductase, PTEN, FHIT, KAI1, diptheria toxin, anti-bcl-2 ribozyme, an antisense c-myc RNA, E-cadherin or **polyglutamine**, hepatitis B surface antigen, herpes simplex glycoprotein, HIV envelope proteins, hemagglutinin, malaria circumsporozite protein, carcinoembryonic antigen, prostate-specific membrane antigen (PMSA), prostate stem cell antigen (PSCA), caveollin, POV1, HER2/neu or p27KIP2.
The gene may also encode a humanized antibody which binds specifically to PMSA, PSCA, caveollin, POV1, HER2/neu or p27KIP2. The gene may also encode a tumor suppressor (e.g. p53, p16, p21, MMAC1 (undefined), p73, zac1, BRCAI (undefined) or Rb), a cytokine (e.g. interleukin 1 (IL-1), IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, tumor necrosis factor (TNF), granulocyte macrophage colony stimulating factor (GMCSF), beta-interferon or gamma-interferon), a receptor (e.g. epidermal growth factor receptor (EGFR), vascular epithelial growth factor receptor (VEGFR), IL-2 receptor, estrogen receptor or CFTR (undefined)), an oncogene (e.g. ras, myc, neu, raf, erb, src, fms, jun, trk, ret, gsp, hst or abl) or an inducer of apoptosis (e.g. Harakiri, Ad E1B or an ICE-CED3 protease). The gene may also be a proapoptotic Bcl2 gene selected from Bax, Bak Bim, Bik, Bid or Bad.

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Vaccine: The gene encodes hepatitis B surface antigen, herpes simplex glycoprotein, HIV envelope proteins, hemagglutinin, malaria circumsporozite protein, carcinoembryonic antigen, prostate-specific membrane antigen (PMSA), prostate stem cell antigen (PSCA), caveollin, POV1 (undefined), HER2/neu (undefined) or p27KIP2.

ABEX UPTX: 20000508
ADMINISTRATION - The compositions can be administered parenterally, where the dosage is about 0.0001 to 10 mg/dose of active agent.

EXAMPLE - No relevant example given.

L133 ANSWER 8 OF 17 WPIX (C) 2003 THOMSON DERWENT
AN 2000-147134 [13] WPIX
DNC C2000-046006
TI Treatment of neurodegenerative diseases and other diseases mediated by an enzyme activity, e.g. **Huntington**'s disease.
DC B04 B05
IN KARPUJ, M V; **STEINMAN, L**
PA (YEDA) YEDA RES & DEV CO LTD
CYC 86
PI WO 9965516 A1 19991223 (200013)* EN 61p A61K038-48
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB

GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU
LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR
TT UA UG US UZ VN YU ZA ZW

AU 9948239 A 20000105 (200024) A61K038-48

ADT WO 9965516 A1 WO 1999-US13615 19990617; AU 9948239 A AU 1999-48239 19990617

FDT AU 9948239 A Based on WO 9965516

PRAI US 1998-89603P 19980617

IC ICM A61K038-48
ICS A61K031-13

AB WO 9965516 A UPAB: 20000313
NOVELTY - Treatment of **transglutaminase** (T) mediated diseases involves administration of its inhibitor (TI).
ACTIVITY - Nootropic; antirheumatic; neuroprotective; antidiabetic; antiinflammatory. The antiinflammatory activity of a (TI), **monodansyl cadaverine** was tested using paraparetic mice with experimental autoimmune encephalomyelitis induced by injecting 4 mg of mouse spinal cord homogenate. 0.05 mM **monodansyl cadaverine** was injected intraperitoneally into one of two groups of mice after 13 days of disease induction. A significant influence ($p=0.03$ compared to control) of this inhibitor occured after the second day of injection and mice treated with the **monodansyl cadaverine** showed reversal in the paralytic disease.
MECHANISM OF ACTION - **Transglutaminase** inhibitor.
USE - The composition comprising (TI) is used in the treatment of (TI) mediated diseases like neurodegenerative diseases caused by aggregation of **polyQ** proteins, **Huntington**'s disease, **spinobulbar atrophy, spinocerebellar ataxia, dentatorubralpallidoluysian atrophy,** cell mediated autoimmune disease like rheumatoid arthritis, multiple sclerosis or insulin dependent diabetes mellitus and other inflammatory diseases of the central nervous system (claimed).
ADVANTAGE - None given.
Dwg.0/7

FS CPI

FA AB; DCN

MC CPI: B04-E02; **B04-E06**; B04-F0400E; B04-F1100E; B14-C03; B14-C06; **B14-D06**; B14-E08; **B14-J01**; **B14-J01A**; **B14-J01A4**; **B14-S03**; B14-S04

TECH UPTX: 20000313
TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Method: (TI) can also be presented as an antisense DNA of (T) gene or as DNA encoding it and is introduced into the cell of patient. The method of DNA introduction includes receptor mediated gene delivery, transkaryotic implantation, viral shuttle vectors, direct injection of non-infectious, non-oncogenic plasma DNA encapsulated in liposomes, immunoliposomes and a liposome/red blood cell membrane hybrid.

ABEX UPTX: 20000313
SPECIFIC COMPOUNDS - The specific (TI) compounds are **monodansyl cadaverine, cystamine, putrescine, gamma-amino benzoic acid, N -benzyloxy carbonyl**, 5-deazo-4-oxonorvaline p-nitrophenylester, **glycine methyl ester, CuSO4**, and **tolbutamide** (claimed).

ADMINISTRATION - Administration can be by any preferred route e.g. intraperitoneal, subcutaneous, oral routes and are given in dosages of 0.0001-100 mg/kg body weight daily.

L133 ANSWER 9 OF 17 WPIX (C) 2003 THOMSON DERWENT

AN 1999-497083 [42] WPIX

DNC C1999-146351

TI Therapeutic agent for **Cytosine Adenine Guanine**

repeat disease - inhibits activity of **transglutaminase**.
DC B05
IN TSUJI, S
PA (UYNI-N) UNIV NIIGATA
CYC 29
PI JP 11209304 A 19990803 (199942)* 19p A61K045-00
AU 9913191 A 19990812 (199944) A61K031-13
EP 950406 A2 19991020 (199948) EN A61K031-145
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
CA 2260311 A1 19990726 (200003) EN A61K031-16
JP 3012923 B2 20000228 (200015) 18p A61K031-195
AU 733910 B 20010531 (200137) A61K031-13
US 6355690 B1 20020312 (200221) A61K031-095
CA 2260311 C 20021217 (200309) EN A61K031-16
ADT JP 11209304 A JP 1998-27739 19980126; AU 9913191 A AU 1999-13191 19990122; EP 950406 A2 EP 1999-101063 19990125; CA 2260311 A1 CA 1999-2260311 19990125; JP 3012923 B2 JP 1998-27739 19980126; AU 733910 B AU 1999-13191 19990122; US 6355690 B1 US 1999-236002 19990122; CA 2260311 C CA 1999-2260311 19990125
FDT JP 3012923 B2 Previous Publ. JP 11209304; AU 733910 B Previous Publ. AU 9913191
PRAI JP 1998-27739 19980126
IC ICM A61K031-095; A61K031-13; A61K031-145; A61K031-16; A61K031-195; A61K045-00
ICS A61K031-18; A61K038-00; A61P025-00; A61P025-14
AB JP 11209304 A UPAB: 19991020
NOVELTY - The effective ingredient in a therapeutic agent for **Cytosine Adenine Guanine** (**CAG**) repeat disease inhibits the activity of **transglutaminase**.
USE - For **CAG** repeat diseases such as spinal marrow and medulla oblongata muscular dystrophy, **Huntington**'s disease, nucleus dentatus cerebelli red nucleus pallidum Luy's body **atrophy**, Machao-Joseph disease, 1,2,6 and 7 type spinal marrow cerebellum **ataxia** (claimed). ACTIVITY - Nootropic; anticonvulsant.
ADVANTAGE - Effective inhibition of **transglutaminase** is achieved.
Dwg.0/8
FS CPI
FA AB; DCN
MC CPI: **B14-D06**; **B14-J01A4**; B14-J05; B14-J07

L133 ANSWER 10 OF 17 WPIX (C) 2003 THOMSON DERWENT
AN **1994-065291** [08] WPIX
CR 1991-066915 [10]; 1992-293916 [36]
DNC **C1994-029231**
TI New nerve-derived **trans glutaminase** enzyme - derived from injured fish optic nerve, used for inducing and facilitating regeneration of injured nerves.
DC B04 C03 D16
IN EITAN, S; SCHWARTZ, M; EISENBACH-SCHWARTZ, M
PA (YEDA) YEDA RES & DEV CO LTD; (RYCU-I) RYCUS A
CYC 48
PI WO 9403059 A1 19940217 (199408)* EN 67p A01N037-18
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE
W: AU BB BG BR BY CA CZ FI HU JP KP KR KZ LK MG MN MW NO NZ PL RO RU SD SK UA VN
ZA 9305528 A 19940427 (199422) 62p C07K000-00
AU 9347950 A 19940303 (199426) A01N037-18
FI 9401451 A 19940511 (199428) C12N000-00
EP 610475 A1 19940817 (199432) EN A01N037-18
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
JP 06511393 W 19941222 (199510) C12N009-10

CN 1084888	A	19940406	(199526)		C12N009-10
HU 70302	T	19950928	(199546)		A01N037-18
AU 667572	B	19960328	(199622)		C12N009-78
US 5514565	A	19960507	(199624)	20p	C12P021-02
IL 102686	A	19961031	(199704)		C12N009-10
EP 610475	A4	19970423	(199735)		A01N037-18
US 5840295	A	19981124	(199903)		A61K038-45
US 5962404	A	19991005	(199948)		A61K038-20
HU 218852	B	20001228	(200111)		A61K038-45
IL 116881	A	20010808	(200157)		C07K014-55
EP 610475	B1	20020320	(200221)	EN	C12N009-10
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE					
DE 69331730	E	20020425	(200235)		C12N009-10
JP 3310289	B2	20020805	(200258)	22p	C12N009-10

ADT WO 9403059 A1 WO 1993-US7188 19930730; ZA 9305528 A ZA 1993-5528 19930730; AU 9347950 A AU 1993-47950 19930730; FI 9401451 A WO 1993-US7188 19930730, FI 1994-1451 19940329; EP 610475 A1 EP 1993-918528 19930730, WO 1993-US7188 19930730; JP 06511393 W WO 1993-US7188 19930730, JP 1994-505461 19930730; CN 1084888 A CN 1993-117381 19930730; HU 70302 T WO 1993-US7188 19930730, HU 1994-900 19930730; AU 667572 B AU 1993-47950 19930730; US 5514565 A CIP of US 1990-573580 19900827, CIP of US 1992-840783 19920224, US 1993-99759 19930730; IL 102686 A IL 1992-102686 19920730; EP 610475 A4 EP 1993-918528 ; US 5840295 A CIP of US 1990-573580 19900827, CIP of US 1992-840783 19920224, Div ex US 1993-99759 19930730, US 1995-467202 19950607; US 5962404 A CIP of US 1990-573580 19900827, Cont of US 1992-840783 19920224, Div ex US 1993-99759 19930730, Cont of US 1993-106970 19930816, CIP of US 1995-467202 19950607, CIP of US 1995-483836 19950615, US 1997-795007 19970205; HU 218852 B WO 1993-US7188 19930730, HU 1994-900 19930730; IL 116881 A Div ex IL 1992-102686 19920730, IL 1992-116881 19920730; EP 610475 B1 EP 1993-918528 19930730, WO 1993-US7188 19930730; DE 69331730 E DE 1993-631730 19930730, EP 1993-918528 19930730, WO 1993-US7188 19930730; JP 3310289 B2 WO 1993-US7188 19930730, JP 1994-505461 19930730

FDT AU 9347950 A Based on WO 9403059; EP 610475 A1 Based on WO 9403059; JP 06511393 W Based on WO 9403059; HU 70302 T Based on WO 9403059; AU 667572 B Previous Publ. AU 9347950, Based on WO 9403059; US 5840295 A Div ex US 5514565; US 5962404 A Div ex US 5514565; HU 218852 B Previous Publ. HU 70302, Based on WO 9403059; IL 116881 A Div ex IL 102686; EP 610475 B1 Based on WO 9403059; DE 69331730 E Based on EP 610475, Based on WO 9403059; JP 3310289 B2 Previous Publ. JP 06511393, Based on WO 9403059

PRAI IL 1993-105752 19930519; IL 1992-102686 19920730; IL 1992-103469 19921020; IL 1989-91459 19890828; IL 1991-97365 19910227; IL 1992-116881 19920730

REP 3.Jnl.Ref; EP 415321; EP 501445

IC ICM A01N037-18; A61K038-20; A61K038-45; C07K000-00; C07K014-55; C12N000-00; C12N009-10; C12N009-78; C12P021-02

ICS A61K031-00; A61K035-60; A61K037-00; A61K037-02; A61K037-52; A61K037-54; A61K037-56; A61K037-58; A61K037-60; A61K038-00; A61K038-43; A61P025-00; A61P027-02; C07K001-00; C07K003-00; C07K013-00; C07K014-435; C07K015-00; C07K017-00; C12N015-09; C12N015-54; C12P021-00

AB WO 9403059 A UPAB: 20020910

(A) A nerve-derived **transglutaminase** (TG) enzyme obtainable from injured fish optic nerve which converts interleukin-2 (IL-2) to dimeric IL-2 having oligodendrocyte cytotoxic (OC) activity is claimed.

Also claimed are: (B) an enzymatic process for the prodn. of dimeric IL-2 having OC activity; (C) dimeric IL-2 having OC activity obtainable by the process of (B); (D) human dimeric IL-2 having OC activity produced by incubation of recombinant human IL-2 with a TG enzyme; (E) use of a TG enzyme for inducing and facilitating regeneration of injured nerves of the central nervous system (CNS) in mammals; and (F) a pharmaceutical compsn. for inducing and facilitating regeneration of injured nerves of the CNS in mammals comprising as active ingredient an enzymatically-producible

dimeric IL-2 having OC activity.
USE - The dimeric IL-2 or TG enable nerve cells to be treated in vivo by selective elimination of oligodendrocytes, normally ann obstacle to regeneration in mammalian CNS, thereby facilitating the growth of axons in their own environment.
Dwg.0/13

FS CPI
FA AB
MC CPI: B04-H02B; C04-H02B; B04-L08; C04-L08; **B14-J01**; **C14-J01**; D05-H17A2; D05-H17A4
ABEQ US 5514565 A UPAB: 19960618
A method for producing dimeric interleukin-2 (IL-2) having oligo-dendrocyte cytotoxic activity comprising
incubating monomeric IL-2 with a **transglutaminase** enzyme obtainable from injured fish optic nerve which dimerises monomeric IL-2 into dimeric IL-2 having said activity
whereby said monomeric IL-2 is dimerised to form dimeric IL-2 having said activity, and recovering said dimeric IL-2.
Dwg.0/13

L133 ANSWER 11 OF 17 WPIX (C) 2003 THOMSON DERWENT
AN 1993-351223 [44] WPIX
DNC C1993-155815
TI Compsn. comprising a non-toxic **trans-glutaminase** inhibitor e.g. **putrescine** - used for treating scar tissue.
DC B05
IN BOWNESS, J M; DOLYNCHUK, K N
PA (UYMA-N) UNIV MANITOBA; (BOWN-I) BOWNESS J M; (DOLY-I) DOLYNCHUK K N
CYC 38
PI WO 9318760 A1 19930930 (199344)* EN 22p A61K031-13
RW: AT BE CH DE DK ES FR GB GR IT LU MC NL OA SE
W: AU BB BG BR CA CS FI HU JP KP KR LK MG MN MW NO PL RO RU SD UA US
AU 9215448 A 19931021 (199407)# A61K031-13
EP 632723 A1 19950111 (199506) EN A61K031-13
R: AT BE CH DE DK ES FR GB GR IT LI LU MC NL SE
JP 07504154 W 19950511 (199527) A61K031-13
BR 9207109 A 19951212 (199606) A61K031-13
AU 674828 B 19970116 (199711)# A61K031-13
JP 2856910 B2 19990210 (199911) 6p A61K031-13
US 5885982 A 19990323 (199919) A01N043-00
CA 2132416 C 20010306 (200116) EN A61K031-275
EP 632723 B1 20020605 (200238) EN A61K031-132
R: AT BE CH DE DK ES FR GB GR IT LI LU MC NL SE
DE 69232629 E 20020711 (200253) A61K031-132
ES 2177527 T3 20021216 (200310)# A61K031-132
ADT WO 9318760 A1 WO 1992-CA123 19920323; AU 9215448 A AU 1992-15448 19920323; EP 632723 A1 EP 1992-906696 19920323, WO 1992-CA123 19920323; JP 07504154 W JP 1992-506324 19920323, WO 1992-CA123 19920323; BR 9207109 A BR 1992-7109 19920323, WO 1992-CA123 19920323; AU 674828 B AU 1992-15448 19920323; JP 2856910 B2 JP 1992-506324 19920323, WO 1992-CA123 19920323; US 5885982 A WO 1992-CA123 19920323, Cont of US 1994-307621 19941114, US 1997-845117 19970421; CA 2132416 C CA 1992-2132416 19920323, WO 1992-CA123 19920323; EP 632723 B1 EP 1992-906696 19920323, WO 1992-CA123 19920323; DE 69232629 E DE 1992-632629 19920323, EP 1992-906696 19920323, WO 1992-CA123 19920323; ES 2177527 T3 EP 1992-906696 19920323
FDT AU 9215448 A Based on WO 9318760; EP 632723 A1 Based on WO 9318760; JP 07504154 W Based on WO 9318760; BR 9207109 A Based on WO 9318760; AU 674828 B Previous Publ. AU 9215448, Based on WO 9318760; JP 2856910 B2 Previous Publ. JP 07504154, Based on WO 9318760; US 5885982 A Based on WO 9318760; CA 2132416 C Based on WO 9318760; EP 632723 B1 Based on WO 9318760; DE 69232629 E Based on EP 632723, Based on WO 9318760; ES 2177527 T3 Based on EP 632723
PRAI WO 1992-CA123 19920323

REP 1.Jnl.Ref; US 4485088; US 4507321; US 4997854; WO 9110472
IC ICM A01N043-00; A61K031-13; A61K031-132; A61K031-275
ICS A61K009-06; A61K031-135; A61K031-74; C12Q001-00; C12Q001-52
AB WO 9318760 A UPAB: 19931213
Therapeutic compsn. comprises a non-toxic **transglutaminase** inhibitor having a free amino gp. or their acid addn. salts, and a carrier or diluent.
THe inhibitor is esp. a primary aliphatic (1-5C) alkyl polyamine such as **putrescine**. The carrier is an eutectic cream or ointment.
USE - The compsn. is used for treating hypertrophic scar tissue (claimed). The compsn. can also be of use in the treatment of internal scar tissue as well as external wounds. For example, the compsn. may be diffused through the elastomer coating of a breast implant. For topical application, the active cpd. is present in an amt. of 25-100 (pref. 50) mM.
Dwg. 0/8
FS CPI
FA AB; DCN
MC CPI: C10-B01B; **C12-G01B2**

L133 ANSWER 12 OF 17 WPIX (C) 2003 THOMSON DERWENT
AN 1992-299731 [36] WPIX
DNC C1992-133640
TI Use of isothiocyanate(s) as inhibitors of **transglutaminase** C and plasma factor XIIIA - for treating psoriatic scale, metastatic carcinoma, inflammation, senile cataract formation, neuronal degeneration etc..
DC B05 C03
IN CHEN, G T
PA (MEDI-N) MEDICIS CORP
CYC 35
PI WO 9213530 A1 19920820 (199236)* EN 25p A61K031-13
RW: AT BE CH DE DK ES FR GB GR IT LU MC NL OA SE
W: AT AU BB BG BR CA CH CS DE DK ES FI GB HU JP KP KR LK LU MG MN MW NL NO PL RO RU SD SE
AU 9214362 A 19920907 (199249) A61K031-13
ADT WO 9213530 A1 WO 1992-US1180 19920211; AU 9214362 A AU 1992-14362 19920211, WO 1992-US1180 19920211
FDT AU 9214362 A Based on WO 9213530
PRAI US 1991-654089 19910211
REP 1.Jnl.Ref
IC ICM A61K031-13
ICS A61K031-16
AB WO 9213530 A UPAB: 19931112
Transglutaminase enzyme activity in an animal or human is inhibited by administration of an isothiocyanate cpd. of formula (I). a compsn. for this comprises R-CO(CH2)n-NCS (I); and a suitable carrier. IN (I) R is OCH3, OCH2CH3, O-Phenyl, O-Benzyl or NH2; n is 1-4.
Isothiocyanatoacetamide of the formula SCN-CH2-CONH2 is new. USE - (I) regulate protein crosslinking by **transglutaminase** enzymes. The enzyme activity may be **transglutaminase** C activity or plasma factor XIIIa activity. Thus, (I) may be used to treat epidermal damage, active psoriatic scale, metastatic carcinoma, inflammation, senile cataract formation, neuronal degeneration e.g. Alzheimer's disease, or the formation of thrombi among other tissue damage conditions.
Dwg.0/0
FS CPI
FA AB; DCN
MC CPI: B10-A14; C10-A14; B12-A07; C12-A07; B12-D07; C12-D07; **B12-G01B2**; **C12-G01B2**; **B12-G04A**; **C12-G04A**; B12-G07; C12-G07; B12-H02; C12-H02; B12-L04; C12-L04

L133 ANSWER 13 OF 17 WPIX (C) 2003 THOMSON DERWENT

AN **1992-133808** [17] WPIX
DNC **C1992-062574**
TI DNA fragment encoding **trans glutaminase** - is inserted into vector, e.g. PnJ1053-BTG, for protein expression.
DC B04 D13 D16 D21
IN ANDO, K; ARAFUKA, S; KOIKEDA, S; MATSUI, H; TAKAGI, H; WASHIZU, K
PA (AJIN) AJINOMOTO KK; (AMAN) AMANO PHARM KK; (AJIN) AJINOMOTO CO INC
CYC 5
PI EP 481504 A 19920422 (199217)* EN 55p
R: DE FR GB
JP 05199883 A 19930810 (199336) 23p C12N015-54
US 5420025 A 19950530 (199527) 31p C12N009-10
EP 481504 B1 19960117 (199608) EN 64p C12N015-54
R: DE FR GB
DE 69116495 E 19960229 (199614) C12N015-54
JP 3010589 B2 20000221 (200014) 23p C12N015-09
ADT EP 481504 A EP 1991-117813 19911018; JP 05199883 A JP 1991-267860 19911016; US 5420025 A Cont of US 1991-777447 19911018, US 1993-136993 19931018; EP 481504 B1 EP 1991-117813 19911018; DE 69116495 E DE 1991-616495 19911018, EP 1991-117813 19911018; JP 3010589 B2 JP 1991-267860 19911016
FDT DE 69116495 E Based on EP 481504; JP 3010589 B2 Previous Publ. JP 05199883
PRAI JP 1990-282566 19901019
REP 2.Jnl.Ref; EP 379606; EP 441353; WO 8907398
IC C12N009-10; C12N015-54; C12R001-62
ICM C12N009-10; C12N015-09; C12N015-54
ICS C12N001-19; C12N001-21; C12N015-63; C12N015-66; C12N015-70; C12R001-62
ICA C07K013-00
ICI C12N009-10, C12R001:625; C12N001-19, C12R001:865; C12N001-21, C12R001:465; C12N001-21, C12R001:19; C12N009-10, C12R001:865; C12N009-10, C12R001:19; C12N009-10, C12R001:465; C12N015-09, C12R001:625; C12N015-54, C12R001:625; C12N001-19, C12R001:865; C12N001-21, C12R001:19; C12N001-21, C12R001:465; C12N009-10, C12R001:19; C12N015-70, C12R001:19
AB EP 481504 A UPAB: 19931006
A chemically synthesised or cloned DNA fragment encoding a specified 331 amino acid sequence (SEQ ID NO:1) is claimed.

Also claimed are: (1) an expression secretion vector contg. the DNA fragment; (2) a transformed host cell contg. the vector; and (3) prodn. of a protein having **transglutaminase** activity by culturing the transformant and recovering the protein produced.

USE/ADVANTAGE - The DNA fragment encodes **transglutaminase** which accelerates the conversion of glutamine into glutamic acid. The enzyme is used in the prodn. of gelled foods, gelled cosmetics, yoghurt, gelatin, cheese etc. It is also used in the prodn. of thermally stable materials such as microcapsules and carriers of immobilised enzymes. The DNA allows the prodn. of **transglutaminase** efficiently and in large quantity. (0/1)
0/1
FS CPI
FA AB
MC CPI: B04-B02B1; B04-B02B2; **B04-B04A1**; B04-B04A5; B04-B04A6; D05-C03D; D05-H03B; D05-H12
ABEQ JP 05199883 A UPAB: 19931122
A DNA contains the base sequence coding a specified amino acid sequence. In an expression secretion vector, the above DNA is recombined. A transformant is transformed by the above expression vector. In the prepn. of a protein having TG activity the above transformant is cultured.

USE/ADVANTAGE - The method can prepare TG efficiently in a large amt. TG is used in the prepn. of gel cosmetics and gel foodstuffs.

In an example, Streptoverticillium sp. was cultured at 30 deg.C for 5 days. DNA was collected from the culture. DNA fragment was prepd. by PCR.

The structure of the DNA amplified by PCR was confirmed. The DNA fragment amplified by PCR was sub-cloned to pUC19. A library was prepd. BTG gene was screened. The structure of clone DNA was analysed. NcoI 3.6 kbp fragment was sub-cloned. BTG gene was designed and synthesised. BTG gene (synthetic) was constructed. BTG gene (synthetic) was expressed in E coli. BTG activities of each fraction were measured. BTG gene (natural) was expressed in Actrinomycetes and also in a yeast.
Dwg.0/0

ABEQ US 5420025 A UPAB: 19950712
Chemically synthesised or closed DNA fragment contains a base sequence encoding the amino acid sequence given in the specification. The 5' end may be ligated to a further sequence.
Also claimed are an expression vector contg. the DNA, a process for producing **transglutaminase** and a transformant comprising the host.
USE - Used to produce **transglutaminase**.
Dwg.0/1

ABEQ EP 481504 B UPAB: 19960227
A chemically synthesised or cloned DNA fragment containing a base sequence which encodes the amino acid sequence defined in the specification.
Dwg.0/1

L133 ANSWER 14 OF 17 WPIX (C) 2003 THOMSON DERWENT
AN 1992-010510 [02] WPIX
DNC C1992-004504
TI Synergistic amts. of retinoid and sterol - useful in treatment of disorders with acne, ichtyoses, darier's disease, psoriasis, eczema and chronological ageing etc..
DC B05 D21
IN REICHERT, U; SCHMIDT, R; SHROOT, B
PA (CIRD) CIRD CENT INT RECH DERMATOLOGIQUES; (CIRD) CIRD GALDERMA; (CIRD) CIRD
CYC 17
PI EP 465343 A 19920108 (199202)* 30p
R: AT BE CH DE ES FR GB GR IT LI NL SE
WO 9200076 A 19920109 (199205)
W: AU CA JP US
FR 2663850 A 19920103 (199212) 18p
AU 9181836 A 19920227 (199218)
JP 06501458 W 19940217 (199412) 18p A61K031-575
EP 465343 B1 19940615 (199423) FR 42p A61K031-575
R: AT BE CH DE DK ES FR GB GR IT LI NL SE
DE 69102499 E 19940721 (199429) A61K031-575
ES 2055972 T3 19940901 (199436) A61K031-575
US 5556844 A 19960917 (199643) 15p A61K031-07
US 5587367 A 19961224 (199706) 15p A61K031-44
CA 2086429 C 19990921 (200005) FR A61K031-575
JP 3224228 B2 20011029 (200171) 23p A61K031-56
ADT EP 465343 A EP 1991-401805 19910702; FR 2663850 A FR 1990-8344 19900702; JP 06501458 W JP 1991-513004 19910702, WO 1991-FR526 19910702; EP 465343 B1 EP 1991-401805 19910702; DE 69102499 E DE 1991-602499 19910702, EP 1991-401805 19910702; ES 2055972 T3 EP 1991-401805 19910702; US 5556844 A WO 1991-FR526 19910702, US 1993-962596 19930302; US 5587367 A Div ex US 1993-962596 19930302, US 1995-447776 19950523; CA 2086429 C CA 1991-2086429 19910702, WO 1991-FR526 19910702; JP 3224228 B2 JP 1991-513004 19910702, WO 1991-FR526 19910702
FDT JP 06501458 W Based on WO 9200076; DE 69102499 E Based on EP 465343; ES 2055972 T3 Based on EP 465343; US 5556844 A Based on WO 9200076; CA 2086429 C Based on WO 9200076; JP 3224228 B2 Previous Publ. JP 06501458, Based on WO 9200076
PRAI FR 1990-8344 19900702
REP EP 337890; 1.Jnl.Ref
IC A61K007-48; A61K031-41; A61K031-57; C07C403-20; C07D235-12; C07D311-04;

C07J003-00
ICM A61K031-07; A61K031-44; A61K031-56; A61K031-575
ICS A61K007-00; A61K007-48; A61K031-19; A61K031-20; A61K031-235; A61K031-38; A61K031-41; A61K031-415; A61K031-57; A61P017-00; A61P017-02; A61P017-08; A61P043-00; C07C403-20; C07D235-12; C07D311-04; C07J003-00
ICI A61K031-575, A61K031:07, A61K031:20
AB EP 465343 A UPAB: 19931006
Pharmaceutical or cosmetic compsns. contain a retinoid (I) capable of inhibiting expression of membrane **transglutaminase**, and a sterol(II) capable of inhibiting cholesterol biosynthesis.

Cpds. (I) used in examples are specifically 2-(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthyl)-5-benzimidazolecarboxylic acid (Ia), retinoic acid and retinol palmitate. Cpds. (II) used in examples are 25-hydroxycholesterol (IIa) and 6-nitrocholesterol.

The compsns. pref contain 0.0001-50 wt.% (I). The (II):(I) molar ratio is 0.1-10:1. The compsns are formulated for topical, ocular, buccal or systemic admin. (I) and (II) may be packaged in separate components.

USE/ADVANTAGE - The compsns. may be used (a) to treat skin disorders such as acne, ichthyosis, psoriasis, eczema, dermatosis bullosa, cancers and precancerous states, (b) to prevent age- or light-induced ageing of the skin, (c) to combat corticosteroid-induced skin **atrophy**, (d) to promote wound healing, (e) to treat: ophthalmic disorders, (g) to combat seborrhoea, (g) to repair skin collagen and elastin damage, e.g. weals or stretch marks, and (h) to combat periodontal diseases. Combinations of (I) and (II) have synergistically enhanced activity in inhibiting the last stage of keratinocyte differentiation in cultures infected with SV-40.

0/0
FS CPI
FA AB; DCN
MC CPI: B01-D02; B03-A; B12-A07; B12-C04; B12-G01; B12-G07; B12-L02; B12-L03; B12-L05; D08-A05; D08-B09A
ABEQ EP 465343 B UPAB: 19940727
Pharmaceutical or cosmetic composition characterised by the fact that it comprises as a combination: at least one retinoid capable of inhibiting the expression of membrane **transglutaminase**, and at least one sterol which inhibits the biosynthesis of cholesterol.
Dwg.0/0
ABEQ US 5556844 A UPAB: 19961025
A pharmaceutical or cosmetic composition comprising in combination

at least one retinoid capable of inhibiting the expression of membranal **transglutaminase**, said retinoid not having a heterocycle moiety, and

at least one sterol which functions as an inhibitor of the biosynthesis of cholesterol.
Dwg.0/0
ABEQ US 5587367 A UPAB: 19970205
A pharmaceutical or cosmetic composition comprising in combination

at least one retinoid capable of inhibiting the expression of membranal **transglutaminase**, said retinoid having a heterocycle moiety, and

at least one sterol which functions as an inhibitor of the biosynthesis of cholesterol.
Dwg.0/0

L133 ANSWER 15 OF 17 WPIX (C) 2003 THOMSON DERWENT
AN 1991-237783 [32] WPIX
DNC C1991-103385
TI Use of **transglutaminase** inhibitor e.g. **mono dansyl cadaverine** - for inhibiting prodn. of microfilariae in adult nematodes.
DC B05 C03

IN KAPIL, M; RAO, U R; VICKERY, A C; MEHTA, K; RAO, U
PA (TEXA) UNIV TEXAS SYSTEM; (TEXA) UNIV OF TEXAS; (UYSF-N) UNIV SOUTH FLORIDA
CYC 33
PI WO 9110427 A 19910725 (199132)*
RW: AT BE CH DE DK ES FR GB GR IT LU NL OA SE
W: AT AU BB BG BR CA CH DE DK ES FI GB HU JP KP KR LK LU MC MG MW NL NO RO SD SE SU US
AU 9174789 A 19910805 (199145)
US 5124358 A 19920623 (199228) 14p A01N033-02
WO 9110427 A3 19910905 (199508)
ADT US 5124358 A US 1990-466127 19900116; WO 9110427 A3 WO 1990-US7697 19901231
PRAI US 1990-466127 19900116
REP NoSR.Pub; 7.Jnl.Ref
IC ICM A01N033-02
ICS A01N041-06; A61K031-13; A61K031-18
AB WO 9110427 A UPAB: 19930928
The **transglutaminase** inhibitor used is selected from monodansyl cadavarine, **putrescine**, histamine, methylamine, **cystamine** iodacetamide and beta-phenyl propionylthiocholine. The amt. of inhibitor used should provide a concn. of about 200 micro-M in the host. Other possible inhibitors of use include a 3,5-substd. 4,5-dihydroisoxazole, amantadine and rimantadine.

USE/ADVANTAGE - For inhibiting maturation and prodn. of microfiliariae in adult filarial nematodes by inhibition of **transglutaminase** or **transglutaminase** mediated reactions. Nematodes treated include Brugia malayi, Brugia pahangi, Brogin patei, Brugia timori, Wuchereia bancrofti, Lao Lao, Onchocera volvulus (all claimed). The cpds. are of use in both humans and animals and may be administered parenterally, e.g., intravascularly, intravenously or transdermally. They do not provoke an allergic response unlike Heparigen and Ivermectin which induces severe allergic reaction known as the Mazzotti reaction. This can be fatal or lead to permanent blindness.

In an example, eight nude mice were transplanted i.p. with 5 Brugia malayi adult female nematodes. A week after transplantation, these animals were treated i.p. with **monodansyl cadaverine** (0.2ml of a 10mM soln.) three times a week for 1 week.

Two weeks later, the animals were sacrificed. A 50% redn. in nematode numbers was observed compared to a 13 fold increase for control in animals.

0/13
FS CPI
FA AB; DCN
MC CPI: B07-D09; B07-E01; B09-D01; B10-A04; B10-A22; B10-B01B; B10-B04B; B10-D03; B12-B02; **B12-G01B2**; C07-D09; C07-E01; C09-D01; C10-A04; C10-A22; C10-B01B; C10-B04B; C10-D03; C12-B02; **C12-G01B2**
ABEQ US 5124358 A UPAB: 19930928
Method of inhibiting maturation and prodn. of microfilariae by female nematodes in a mammalian host of an active agent (I) consisting of **monodansyl cadaverine**, methylamine, histamine or **putrescine**.

(I) is used in an amt. which inhibits translutaminase activity and produces the desired results. Pref. the amt. used results in a 200 micromolar concn. in the host.

USE - Esp. vs. Brugia pahangi, Brugia patei, Brugia timori, Wuchereria bancrofti, Loa-loa, Onchocerca volvulus or Brugia malayi.

0/4

L133 ANSWER 16 OF 17 WPIX (C) 2003 THOMSON DERWENT
AN 1990-360979 [48] WPIX
DNC C1990-156886

TI Di hydro isoxazole derivs. for use as **trans glutaminase** inhibitors - in treatment of acne, cataracts and alzheimers disease.
DC B03 C02
IN CASTELHANO, A L; PLIURA, D H; VENTUI, M C
PA (SYNT) SYNTEX (USA) INC
CYC 1
PI US 4970297 A 19901113 (199048)*
ADT US 4970297 A US 1987-25426 19870313
PRAI US 1987-25426 19870313
IC C07K005-00
AB US 4970297 A UPAB: 19930928
A number of specific cpds. and their salts of formula (I) are claimed. In (I), n = 0-2; p and q = 0-2 and p + q is less than 4; X = Halo, OR2, SR2, S(O)R2, S(O)2R2 or SO2-NHR2; R2 - lower alkyl, alkyl substd. by 1-3F, or opt. substd. aryl; R = H or an N protecting gp.; R1 = alkylthio, arylthio, amino, alkylamino, opt. substd. arylamino, or opt. substd. aralkylamino, when n + p + q is greater than 0, R1 can also be OH, alkoxy or aralkoxy; aa = independently an alpha amino acid with an opt. protected side chain. An example of the specific cpds. claimed is: **N-benzyloxycarbonyl-**(L)-phenylalanyl-D,L-alpha-(3-bromo-4,5-dihydroisoxazol-5-yl) **-glycine methyl ester.**
Dosage is 0.001 - 100 pref. 0.5 - 5 mg/kg/day and admin. is oral, parenteral, topical or systemic.
USE/ADVANTAGE - For treating acne, cataracts, by elevated **transglutaminase** activity. Inhibition of **transglutaminase** is more potent and specific than known inhibitors.
0/0
FS CPI
FA AB
MC CPI: B07-E01; B12-A07; B12-B02; B12-D02A; **B12-G01B2**; **B12-G04A**; B12-L04; B12-L09; C07-E01; C12-A07; C12-B02; C12-D02A; **C12-G01B2**; **C12-G04A**; C12-L04; C12-L09

L133 ANSWER 17 OF 17 WPIX (C) 2003 THOMSON DERWENT
AN 1989-071651 [10] WPIX
DNC C1989-031795
TI Trans dermal drug delivery accelerator - comprises anti-tissue **trans glutaminase** inhibitor and/or anti-tissue sulphidoloxidase inhibitor.
DC B05 B07
PA (TERU) TERUMO CORP
CYC 1
PI JP 01022817 A 19890125 (198910)* 5p
ADT JP 01022817 A JP 1987-176790 19870715
PRAI JP 1987-176790 19870715
IC A61K009-70; A61K047-00
AB JP 01022817 A UPAB: 19930923
Anti-tissue **transglutaminase** inhibitor includes pref. (a) anti-antagonistic inhibitor against thiol enzymes such as Ca ion chelating agent (e.g. EDTA, Enamine), maleimide, N-ethylmaleimide, PCMB, PCMPS, PMA, etc. and (b) antagonistic inhibitor such as glycine deriv. (e.g. (glycyl)glycine, **glycine methyl ester**), and diamine cpd. (cadaverine, **putrescine**, lysine). Anti-tissue sulphidoloxidase inhibitor includes pref. maleimide, N-ethylmaleimide, PCMB, PCMPS, PMA, dithiothreitol, dithioerythritol, D-penicillamine, L-cysteine, glutathione, and 2-mercaptoethanol.
(1) Gauze dipped in 5% soln. (DMSO/water=50/50= of PCMB was fixed on the back of hairless rat for 3 days, during of which the gauze was renewed every day. Then a gauze contg. 125 I-insulin was exchanged with the gauze and fixed for a day. The same procedures as above except that no PCMB was employed, were carried out as a control. The skin of the back was cut off the for the measurement of radioactivity. The radioactivity in the treated gp. was about 15 times stronger than that in control gp. (2) The

radioactivity in a gp. treated with 5% L-cysteine was about 6 times stronger than in control. (3) The radioactivity in a gp. treated with 5% **putrescine** + 5% L-cysteine was about 9.3 times stronger than in control.

USE/ADVANTAGE - Medium can efficiently accelerate transdermal absorption of drugs, esp. high molecular ones (e.g. insulin, heparin, urokinase, growth hormones, etc.). This can also migrate physiologically active substances, esp. high molecular ones (e.g. electrolytes, glucose, cholesterol, fatty acids, tri-glyceride, uric acid, urea nitrate, bilirubin, hormones, insulin, etc.) out of the body, whereby they can be measured easily.

0/0

FS CPI
FA AB; DCN
MC CPI: B01-D02; B04-A06; B04-B02C3; B04-B02D; B04-B02D4; B04-C01A; B07-D02; B07-D03; B10-A07; B10-A13B; B10-B01B; B10-B02; B10-B04; B10-C04E; B10-E04C; B10-G02; B12-G01B1; **B12-G01B2**; B12-M02F

=> fil medline
FILE 'MEDLINE' ENTERED AT 16:55:25 ON 31 MAR 2003

FILE LAST UPDATED: 31 MAR 2003 (20030331/UP). FILE COVERS 1958 TO DATE.

On June 9, 2002, MEDLINE was reloaded. See HELP RLOAD for details.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2003 vocabulary. See http://www.nlm.nih.gov/mesh/summ2003.html for a description on changes.

This file contains CAS Registry Numbers for easy and accurate substance identification.

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=> d all tot

L159 ANSWER 1 OF 14 MEDLINE
AN 2000194946 MEDLINE
DN 20194946 PubMed ID: 10732808
TI Muscle apoptosis in humans occurs in normal and denervated muscle, but not in myotonic dystrophy, dystrophinopathies or inflammatory disease.
AU Migheli A; Mongini T; Doriguzzi C; Chiado-Piat L; Piva R; Ugo I; Palmucci L
CS Department of Neuroscience, University of Turin, Italy.. palmucci@golgi.molinette.unito.it
SO NEUROGENETICS, **(1997 Sep)** 1 (2) 81-7.
Journal code: 9709714. ISSN: 1364-6745.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200004
ED Entered STN: 20000421
Last Updated on STN: 20000421
Entered Medline: 20000412
AB Recent data suggest that death of muscle cells during development and in selected pathological conditions occurs via apoptosis. We investigated the occurrence of apoptosis in normal and pathological human skeletal muscle, using in situ end-labeling (ISEL) to detect DNA fragmentation, and immunohistochemistry for the expression of tissue **transglutaminase** and interleukin-1beta-converting enzyme (ICE)-like proteases. In normal subjects, apoptotic myonuclei were occasionally observed as evidence of normal tissue turnover. Myonuclear apoptosis due to a deficit of trophic

support from nerve cells also occurred in spinal muscular **atrophies**. No apoptosis of muscle cells was found in dystrophinopathies, myotonic dystrophy and inflammatory myopathies, suggesting that death of myofibers in those conditions is not due to activation of a gene-directed program of death. In dystrophinopathies and inflammatory myopathies, apoptosis was found in interstitial mononuclear cells, as a likely mechanism of clearance of the inflammatory infiltrates.

CT Check Tags: Human; Support, Non-U.S. Gov't
Adolescence
Adult
Aged
*Apoptosis
Caspases: AN, analysis
Cell Nucleus: GE, genetics
Child
DNA Fragmentation
Immunohistochemistry
In Situ Nick-End Labeling
Infant
Middle Age
Muscle Denervation
Muscle, Skeletal: IR, innervation
*Muscle, Skeletal: PA, pathology
Muscle, Skeletal: UL, ultrastructure
Muscular Diseases: GE, genetics
Muscular Diseases: ME, metabolism
***Muscular Diseases: PA, pathology**
Muscular Dystrophies: GE, genetics
Muscular Dystrophies: ME, metabolism
Muscular Dystrophies: PA, pathology
Myositis: GE, genetics
Myositis: ME, metabolism
Myositis: PA, pathology
Myotonic Dystrophy: GE, genetics
Myotonic Dystrophy: ME, metabolism
Myotonic Dystrophy: PA, pathology
Transglutaminases: AN, analysis

CN EC 2.3.2.13 (**Transglutaminases**); EC 3.4.22.- (CPP32 protein); EC 3.4.22.- (Caspases)

L159 ANSWER 2 OF 14 MEDLINE
AN 1999103201 MEDLINE
DN 99103201 PubMed ID: 9885815
TI **Transglutaminase** as the agent of neurodegenerative diseases due to **polyglutamine** expansion.
AU Kahlem P; Green H; Djian P
CS CNRS, Centre de Recherche sur l'Endocrinologie Moleculaire et le Developpment, Meudon-Bellevue, France.
SO PATHOLOGIE BIOLOGIE, **(1998 Nov)** 46 (9) 681-2.
Journal code: 0265365. ISSN: 0369-8114.
CY France
DT Journal; Article; (JOURNAL ARTICLE)
LA English; French
FS Priority Journals
EM 199902
ED Entered STN: 19990216
Last Updated on STN: 19990216
Entered Medline: 19990202
CT Check Tags: Human
Brain: EN, enzymology
Liver: EN, enzymology
***Neurodegenerative Diseases: EN, enzymology**
Neurodegenerative Diseases: GE, genetics

*Peptides: ME, metabolism
***Transglutaminases: ME, metabolism**
RN **26700-71-0 (polyglutamine)**
CN 0 (Peptides); EC 2.3.2.13 (**Transglutaminases**)

L159 ANSWER 3 OF 14 MEDLINE
AN **1999055570** MEDLINE
DN **99055570** PubMed ID: **9834256**
TI Autoantibodies to tissue **transglutaminase** as predictors of celiac disease.
CM Comment in: Gastroenterology. 1998 Dec;115(6):1584-6
AU Dieterich W; Laag E; Schopper H; Volta U; Ferguson A; Gillett H; Riecken E O; Schuppan D
CS Department of Gastroenterology, Klinikum Benjamin Franklin, Free University of Berlin, Berlin, Germany.
SO GASTROENTEROLOGY, **(1998 Dec)** 115 (6) 1317-21.
Journal code: 0374630. ISSN: 0016-5085.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199901
ED Entered STN: 19990115
Last Updated on STN: 20021217
Entered Medline: 19990106
AB BACKGROUND & AIMS: Immunoglobulin A (IgA) autoantibodies to endomysium (EMA) are highly specific and sensitive markers for celiac disease. Recently, we identified tissue **transglutaminase** (tTG) as the major if not sole endomysial autoantigen. METHODS: An enzyme-linked immunosorbent assay (ELISA) was established to measure IgA anti-tTG titers in serum samples from 106 celiac patients with partial or subtotal villous **atrophy**, 43 celiac patients on a gluten-free diet, and 114 diseased and healthy controls. Results were correlated with clinical and histological data and with EMA titers. RESULTS: In patients with biopsy-proven celiac disease consuming a normal, gluten-containing diet, 98.1% of the serum samples had elevated IgA titers against tTG, whereas 94.7% of the control sera were negative. IgA anti-tTG correlated positively with semiquantitative IgA EMA titers ($r = 0.862$; $P < 0.0001$). CONCLUSIONS: An ELISA based on tTG allows diagnosis of celiac disease with a high sensitivity and specificity. IgA anti-tTG and IgA EMA show an excellent correlation, further confirming the enzyme as the celiac disease autoantigen. Because the assay is quantitative, not subjected to interobserver variation, and easy to perform, it will be a useful tool for population screening of a hitherto underdiagnosed disease.
CT Check Tags: Female; Human; Male
Adolescent
Adult
Aged
Aged, 80 and over
*Autoantibodies: BL, blood
*Celiac Disease: DI, diagnosis
Child
Child, Preschool
Enzyme-Linked Immunosorbent Assay
*GTP Phosphohydrolases: IM, immunology
*Immunoglobulin A: BL, blood
Middle Age
Reproducibility of Results
Sensitivity and Specificity
***Transglutaminases: IM, immunology**
CN 0 (Autoantibodies); 0 (Immunoglobulin A); EC 2.3.2.- (**transglutaminase** 2); EC 2.3.2.13 (**Transglutaminases**); EC 3.6.1.- (GTP Phosphohydrolases)

L159 ANSWER 4 OF 14 MEDLINE
AN 1998453391 MEDLINE
DN 98453391 PubMed ID: 9778585
TI Glyceraldehyde 3-phosphate dehydrogenase abnormality in metabolically stressed **Huntington** disease fibroblasts.
AU Cooper A J; Sheu K F; Burke J R; Strittmatter W J; Blass J P
CS Department of Biochemistry, Cornell University Medical College, New York, N.Y., USA.. ajlc@mail.med.cornell.ed
NC AG 09014 (NIA)
SO DEVELOPMENTAL NEUROSCIENCE, **(1998)** 20 (4-5) 462-8.
Journal code: 7809375. ISSN: 0378-5866.
CY Switzerland
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199812
ED Entered STN: 19990115
Last Updated on STN: 20000303
Entered Medline: 19981229
AB **Huntington** disease (HD) fibroblasts subjected to stress exhibit an enzyme profile that is different from that exhibited by escapee (unaffected members of families with HD) or control fibroblasts. The specific activity of glyceraldehyde 3-phosphate dehydrogenase (GAPDH) in normally cultured HD fibroblasts was not different from that in control and escapee fibroblasts. However, in escapee and control fibroblasts subjected to stress by withholding fresh medium, the specific activity of GAPDH in cells harvested by trypsinization increased greatly 3 weeks after withholding medium (approximately 8-fold), but the increase was significantly less pronounced (approximately 3-fold) in the HD fibroblasts. In contrast, only small changes occurred in the specific activity of lipoamide dehydrogenase (LADH) over the same time period, and the values were not significantly different among the three groups at any time point. The specific activity of hexokinase (HK) was significantly higher in the HD fibroblasts at 1-3 weeks after withholding fresh medium than in the escapee/control fibroblasts. Finally, the total yield of fibroblasts per culture flask (as judged by protein content) was significantly greater for the stressed HD fibroblasts than for the escapee and control fibroblasts at 2 and 3 weeks after withholding medium. The present results are in accord with the hypothesis that HD is a disease associated with latent, generalized metabolic abnormalities.
CT Check Tags: Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Cells, Cultured
Cytological Techniques
Fibroblasts: EN, enzymology
*Glyceraldehyde-3-Phosphate Dehydrogenases: ME, metabolism
Hexokinase: ME, metabolism
***Huntington Disease: EN, enzymology**
***Huntington Disease: PA, pathology**
Lipoamide Dehydrogenase: ME, metabolism
*Peptide Fragments: ME, metabolism
Phosphofructokinase-1: ME, metabolism
Reference Values
*Stress: ME, metabolism
Transglutaminases: ME, metabolism
RN 130349-12-1 (glyceraldehyde 3-phosphate dehydrogenase (304-313))
CN 0 (Peptide Fragments); EC 1.2.1.- (Glyceraldehyde-3-Phosphate Dehydrogenases); EC 1.8.1.4 (Lipoamide Dehydrogenase); EC 2.3.2.13 (**Transglutaminases**); EC 2.7.1.1 (Hexokinase); EC 2.7.1.11 (Phosphofructokinase-1)

L159 ANSWER 5 OF 14 MEDLINE
AN 1998325373 MEDLINE

DN 98325373 PubMed ID: 9660943
TI **Transglutaminase** action imitates **Huntington**'s disease: selective polymerization of **Huntingtin** containing expanded **polyglutamine**.
AU Kahlem P; Green H; Djian P
CS Centre National de la Recherche Scientifique, Centre de Recherche sur l'Endocrinologie Moleculaire et le Developpement, Meudon-Bellevue, France.
NC MH/NS 31862 (NIMH)
SO MOLECULAR CELL, **(1998 Mar)** 1 (4) 595-601.
Journal code: 9802571. ISSN: 1097-2765.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199807
ED Entered STN: 19980811
Last Updated on STN: 20020924
Entered Medline: 19980728
AB Different proteins bearing **polyglutamine** of excessive length are lethal to neurons and cause human disease of the central nervous system. In parts of the brain affected by **Huntington**'s disease, the amount of the **huntingtin** with expanded **polyglutamine** is reduced and there appear **huntingtin**-containing polymers of larger molecular weight. We show here that **huntingtin** is a substrate of **transglutaminase** in vitro and that the rate constant of the reaction increases with length of the **polyglutamine** over a range of an order of magnitude. As a result, **huntingtin** with expanded **polyglutamine** is preferentially incorporated into polymers. Both disappearance of the **huntingtin** with expanded **polyglutamine** and its replacement by polymeric forms are prevented by inhibitors of **transglutaminase**. The effect of **transglutaminase** therefore duplicates the changes in the affected parts of the brain.
CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Adolescence
Adult
Age Factors
Cells, Cultured
Cerebral Cortex: CH, chemistry
*Cerebral Cortex: EN, enzymology
Cystamine: PD, pharmacology
***Huntington Disease: EN, enzymology**
Lymphocytes: CY, cytology
Mutagenesis: PH, physiology
Nerve Tissue Proteins: GE, genetics
*Nerve Tissue Proteins: ME, metabolism
Nuclear Proteins: GE, genetics
*Nuclear Proteins: ME, metabolism
*Peptides: ME, metabolism
Protein Binding: DE, drug effects
Substrate Specificity
***Transglutaminases: ME, metabolism**
Transglutaminases: PD, pharmacology
RN **26700-71-0 (polyglutamine); 51-85-4 (Cystamine)**
CN 0 (**Huntingtin** protein, human); 0 (Nerve Tissue Proteins); 0 (Nuclear Proteins); 0 (Peptides); EC 2.3.2.13 (**Transglutaminases**)

L159 ANSWER 6 OF 14 MEDLINE
AN 1998248993 MEDLINE
DN 98248993 PubMed ID: 9587422
TI Tissue **transglutaminase**-catalyzed formation of

high-molecular-weight aggregates in vitro is favored with long **polyglutamine** domains: a possible mechanism contributing to **CAG**-triplet diseases.

AU Gentile V; Sepe C; Calvani M; Melone M A; Cotrufo R; Cooper A J; Blass J P; Peluso G

CS Dipartimento di Biochimica e Biofisica, Seconda Universita di Napoli, Italy.. vigentil@unina.it

NC AG 09014 (NIA)

SO ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, **(1998 Apr 15)** 352 (2) 314-21.
Journal code: 0372430. ISSN: 0003-9861.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199806

ED Entered STN: 19980611
Last Updated on STN: 20020924
Entered Medline: 19980603

AB To investigate possible biochemical mechanisms underlying the "toxic gain of function" associated with **polyglutamine** expansions, the ability of guinea pig liver tissue **transglutaminase** to catalyze covalent attachments of various polyamines to **polyglutamine** peptides was examined. Of the polyamines tested, spermine is the most active substrate, followed by spermidine and **putrescine**. Formation of covalent cross links between **polyglutamine** peptides and polyamines yields high-M(r) aggregates--a process that is favored with longer **polyglutamines**. In the presence of tissue **transglutaminase**, purified glyceraldehyde-3-phosphate dehydrogenase (a key glycolytic enzyme that binds tightly to the **polyglutamine** domains of both **huntingtin** and **dentatorubral-pallidoluysian atrophy** proteins) is covalently attached to **polyglutamine** peptides in vitro, resulting in the formation of high-M(r) aggregates. In addition, endogenous glyceraldehyde-3-phosphate dehydrogenase of a Balb-c 3T3 fibroblast cell line overexpressing human tissue **transglutaminase** forms cross-links with a Q60 polypeptide added to the cell homogenate. Possibly, expansion of **polyglutamine** domains (thus far known to occur in the gene products associated with at least seven neurodegenerative diseases) leads to increased/aberrant tissue **transglutaminase**-catalyzed cross-linking reactions with both polyamines and susceptible proteins, such as glyceraldehyde-3-phosphate dehydrogenase. Formation of cross-linked heteropolymers may lead to deposition of high-M(r) protein aggregates, thereby contributing to cell death.

CT Check Tags: Animal; Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Cells, Cultured
Glyceraldehyde-3-Phosphate Dehydrogenases: ME, metabolism
Guinea Pigs
Liver: EN, enzymology
Mice
Mice, Inbred BALB C
Nerve Tissue Proteins: ME, metabolism
***Neurodegenerative Diseases: GE, genetics**
Nuclear Proteins: ME, metabolism
*Peptides: CH, chemistry
Polyamines: ME, metabolism
***Transglutaminases: ME, metabolism**
*Trinucleotide Repeats: GE, genetics

RN **26700-71-0 (polyglutamine)**

CN 0 (DRPLA protein); 0 (**Huntingtin** protein, human); 0 (Nerve Tissue Proteins); 0 (Nuclear Proteins); 0 (Peptides); 0 (Polyamines); EC

1.2.1.- (Glyceraldehyde-3-Phosphate Dehydrogenases); EC 2.3.2.13 (**Transglutaminases**)

L159 ANSWER 7 OF 14 MEDLINE
AN **1998122570** MEDLINE
DN **98122570** PubMed ID: **9462738**
TI Suppression of aggregate formation and apoptosis by **transglutaminase** inhibitors in cells expressing truncated DRPLA protein with an expanded **polyglutamine** stretch.
AU Igarashi S; Koide R; Shimohata T; Yamada M; Hayashi Y; Takano H; Date H; Oyake M; Sato T; Sato A; Egawa S; Ikeuchi T; Tanaka H; Nakano R; Tanaka K; Hozumi I; Inuzuka T; Takahashi H; Tsuji S
CS Department of Neurology, Brain Research Institute, Niigata University, Asahimachi Niigata, Japan.
SO NATURE GENETICS, **(1998 Feb)** 18 (2) 111-7.
Journal code: 9216904. ISSN: 1061-4036.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199802
ED Entered STN: 19980306
Last Updated on STN: 19980306
Entered Medline: 19980224
AB To elucidate the molecular mechanisms whereby expanded **polyglutamine** stretches elicit a gain of toxic function, we expressed full-length and truncated DRPLA (**dentatorubral-pallidoluysian atrophy**) cDNAs with or without expanded **CAG** repeats in COS-7 cells. We found that truncated DRPLA proteins containing an expanded **polyglutamine** stretch form filamentous peri- and intranuclear aggregates and undergo apoptosis. The apoptotic cell death was partially suppressed by the **transglutaminase** inhibitors **cystamine** and **monodansyl cadaverine** (but not **putrescine**), suggesting involvement of a **transglutaminase** reaction and providing a potential basis for the development of therapeutic measures for **CAG**-repeat expansion diseases.
CT Check Tags: Animal; Human; Support, Non-U.S. Gov't
*Apoptosis
Apoptosis: DE, drug effects
Base Sequence
COS Cells
Cadaverine: AA, analogs & derivatives
Cadaverine: PD, pharmacology
Cystamine: PD, pharmacology
DNA Primers
Enzyme Inhibitors: PD, pharmacology
Molecular Sequence Data
*Nerve Tissue Proteins: BI, biosynthesis
*Nerve Tissue Proteins: GE, genetics
Neurodegenerative Diseases: GE, genetics
Putrescine: PD, pharmacology
Recombinant Proteins: BI, biosynthesis
Transfection
***Transglutaminases: AI, antagonists & inhibitors**
*Trinucleotide Repeats
RN **10121-91-2 (monodansylcadaverine); 110-60-1 (Putrescine)** ; 462-94-2 (Cadaverine); **51-85-4 (Cystamine)**
CN 0 (DNA Primers); 0 (DRPLA protein); 0 (Enzyme Inhibitors); 0 (Nerve Tissue Proteins); 0 (Recombinant Proteins); EC 2.3.2.13 (**Transglutaminases**)

L159 ANSWER 8 OF 14 MEDLINE

AN 1998024178 MEDLINE
DN 98024178 PubMed ID: 9356496
TI **Transglutaminase**-catalyzed inactivation of glyceraldehyde 3-phosphate dehydrogenase and alpha-ketoglutarate dehydrogenase complex by **polyglutamine** domains of pathological length.
AU Cooper A J; Sheu K R; Burke J R; Onodera O; Strittmatter W J; Roses A D; Blass J P
CS Department of Biochemistry, Cornell University Medical College, New York, NY 10021, USA.. ajlc@mail.med.cornell.edu
NC AG 09014 (NIA)
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, **(1997 Nov 11)** 94 (23) 12604-9.
Journal code: 7505876. ISSN: 0027-8424.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199712
ED Entered STN: 19980109
Last Updated on STN: 19990129
Entered Medline: 19971216
AB Several adult-onset neurodegenerative diseases are caused by genes with expanded **CAG** triplet repeats within their coding regions and extended **polyglutamine** (Qn) domains within the expressed proteins. Generally, in clinically affected individuals n >/= 40. Glyceraldehyde 3-phosphate dehydrogenase binds tightly to four Qn disease proteins, but the significance of this interaction is unknown. We now report that purified glyceraldehyde 3-phosphate dehydrogenase is inactivated by tissue **transglutaminase** in the presence of glutathione S-transferase constructs containing a Qn domain of pathological length (n = 62 or 81). The dehydrogenase is less strongly inhibited by tissue **transglutaminase** in the presence of constructs containing shorter Qn domains (n = 0 or 10). Purified alpha-ketoglutarate dehydrogenase complex also is inactivated by tissue **transglutaminase** plus glutathione S-transferase constructs containing pathological-length Qn domains (n = 62 or 81). The results suggest that tissue **transglutaminase**-catalyzed covalent linkages involving the larger **poly-Q** domains may disrupt cerebral energy metabolism in **CAG**/Qn expansion diseases.
CT Check Tags: Animal; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Binding Sites
Glyceraldehyde-3-Phosphate Dehydrogenases: AI, antagonists & inhibitors
*Glyceraldehyde-3-Phosphate Dehydrogenases: ME, metabolism
Guinea Pigs
Ketoglutarate Dehydrogenase Complex: AI, antagonists & inhibitors
*Ketoglutarate Dehydrogenase Complex: ME, metabolism
Neurodegenerative Diseases: EN, enzymology
Neurodegenerative Diseases: GE, genetics
Peptide Fragments: AI, antagonists & inhibitors
*Peptide Fragments: ME, metabolism
Rabbits
Substrate Specificity
***Transglutaminases: ME, metabolism**
Transglutaminases: PD, pharmacology
RN 130349-12-1 (glyceraldehyde 3-phosphate dehydrogenase (304-313))
CN 0 (Peptide Fragments); EC 1.2.1.- (Glyceraldehyde-3-Phosphate Dehydrogenases); EC 1.2.4.2 (Ketoglutarate Dehydrogenase Complex); EC 2.3.2.13 (**Transglutaminases**)

L159 ANSWER 9 OF 14 MEDLINE
AN 97462641 MEDLINE
DN 97462641 PubMed ID: 9322868
TI Direct cutaneous gene delivery in a human genetic skin disease.

AU Choate K A; Khavari P A
CS V.A. Palo Alto Health Care System, CA 94304, USA.
NC AR43799 (NIAMS)
SO HUMAN GENE THERAPY, **(1997 Sep 20)** 8 (14) 1659-65.
Journal code: 9008950. ISSN: 1043-0342.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199711
ED Entered STN: 19971224
Last Updated on STN: 19971224
Entered Medline: 19971106
AB The skin is an accessible somatic tissue for therapeutic gene transfer and, depending on therapeutic goals, a variety of cutaneous gene delivery approaches are currently available. Recent advances in direct injection of naked DNA into intact skin have shown promise and are less labor-intensive than approaches involving grafting of genetically modified cells. We have regenerated skin from **transglutaminase** 1 (TGase1)-deficient patients with the genetic skin disease lamellar ichthyosis (LI) on nude mice to examine the corrective impact of direct naked plasmid injection. Regenerated LI patient skin receiving repeated in vivo injections with a TGase1 expression plasmid displayed restoration of TGase1 expression in the correct tissue location in the suprabasal epidermis. Unlike LI skin regenerated from keratinocytes, first transduced in vitro with a retroviral expression vector for TGase1 prior to grafting, however, directly injected LI skin displayed a nonuniform TGase1 gene expression pattern. In further contrast, direct injection failed to correct the central histologic and functional abnormalities of the disease. These data demonstrate that partial restoration of gene expression can be achieved via direct injection of naked DNA in human genetic skin disease tissue but underscore the need for new advances to achieve efficient and sustained plasmid-based gene delivery to the skin.
CT Check Tags: Animal; Human; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
Cell Transplantation
Epidermis: CH, chemistry
Gene Expression
Gene Therapy: MT, methods
*Gene Transfer Techniques
Ichthyosis, Lamellar: PA, pathology
*Ichthyosis, Lamellar: TH, therapy
Keratinocytes
Mice
Mice, Nude
Plasmids: AD, administration & dosage
Regeneration
Retroviridae: GE, genetics
*Skin
Skin Transplantation
Transglutaminases: AN, analysis
Transglutaminases: DF, deficiency
***Transglutaminases: GE, genetics**
CN 0 (Plasmids); EC 2.3.2.- (**transglutaminase** 1); EC 2.3.2.13 (**Transglutaminases**)

L159 ANSWER 10 OF 14 MEDLINE
AN **97345848** MEDLINE
DN **97345848** PubMed ID: **9202340**
TI **Polyglutamine** domains are substrates of tissue **transglutaminase**: does **transglutaminase** play a role in expanded **CAG/poly-Q** neurodegenerative diseases?.

AU Cooper A J; Sheu K F; Burke J R; Onodera O; Strittmatter W J; Roses A D; Blass J P
CS Department of Biochemistry, Cornell University Medical College, New York, New York, U.S.A.
NC AG 09014 (NIA)
SO JOURNAL OF NEUROCHEMISTRY, **(1997 Jul)** 69 (1) 431-4.
Journal code: 2985190R. ISSN: 0022-3042.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199707
ED Entered STN: 19970805
Last Updated on STN: 19970805
Entered Medline: 19970724
AB **Huntington**'s disease and six other neurodegenerative diseases are associated with abnormal gene products containing expanded **polyglutamine** (**poly-Q**; Qn) domains (n > or = 40). In the present work, we show that glutathione S-transferase (GST) fusion proteins containing a small, physiological-length **poly-Q** domain (GSTQ10) or a large, pathological-length **poly-Q** domain (GSTQ62) are excellent substrates of guinea pig liver (tissue) **transglutaminase** and that both GSTQ10 and GSTQ62 are activators of tissue **transglutaminase**-catalyzed hydroxaminolysis of N-alpha-carbobenzoxyglutaminylglycine. The present findings have implications for understanding the pathophysiological mechanisms of expanded **CAG/poly-Q** domain diseases.
CT Check Tags: Animal; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Amino Acid Sequence
Brain: CY, cytology
Brain: EN, enzymology
Guinea Pigs
Liver: EN, enzymology
*Nerve Degeneration: PH, physiology
*Peptides: CH, chemistry
Peptides: GE, genetics
Protein Structure, Tertiary
*Repetitive Sequences, Nucleic Acid
Substrate Specificity
***Transglutaminases: ME, metabolism**
RN **26700-71-0 (polyglutamine)**
CN 0 (Peptides); EC 2.3.2.13 (**Transglutaminases**)

L159 ANSWER 11 OF 14 MEDLINE
AN 97270849 MEDLINE
DN 97270849 PubMed ID: 9125850
TI Growth suppression of squamous cell carcinoma cell lines by PKCs--possible application to gene therapy.
AU Fujii M
CS Second Department of Oral Surgery, Faculty of Dentistry, Tokyo Medical and Dental University.
SO KOKUBYO GAKKAI ZASSHI. THE JOURNAL OF THE STOMATOLOGICAL SOCIETY, JAPAN, **(1997 Mar)** 64 (1) 52-66.
Journal code: 0413677. ISSN: 0300-9149.
CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA Japanese
FS Dental Journals; Priority Journals
EM 199706
ED Entered STN: 19970630
Last Updated on STN: 19970630
Entered Medline: 19970613
AB Protein kinase C is a serine/threonine kinase protein, which consists of

12 isoforms. Among these isoforms, PKC eta is known to play an important role in epithelial differentiation. The present study was conducted to examine the possibility that the introduction of these genes causes growth suppression of squamous cell carcinoma. It was found that adenovirus vectors containing cDNA of PKC eta suppresses the cell growth of human oral mucosal keratinocytes and activates **transglutaminase** 1, a key enzyme of squamous cell differentiation. In an oral squamous cell carcinoma cell line, overexpression of this isoform did not suppress the growth, but TPA treatment resulted in suppression of cell proliferation. A dominant negative form of PKC eta did not suppress the growth of carcinoma cell lines even with TPA-treatment. Human fibroblasts showed no response to TPA-treatment. The same result was shown with PKC delta. The results of this study suggested the possibility of using PKC isoforms for gene therapy.

CT Check Tags: Human
Adenoviridae: GE, genetics
*Carcinoma, Squamous Cell: PA, pathology
Cell Division: GE, genetics
English Abstract
Gene Therapy: MT, methods
Genetic Vectors
*Isoenzymes: GE, genetics
*Mouth Neoplasms: PA, pathology
*Protein Kinase C: GE, genetics
Tumor Cells, Cultured

CN 0 (Genetic Vectors); 0 (Isoenzymes); EC 2.7.1.- (Protein Kinase C); EC 2.7.1.- (protein kinase C eta)

L159 ANSWER 12 OF 14 MEDLINE
AN 97121429 MEDLINE
DN 97121429 PubMed ID: 8962095
TI Peptides containing glutamine repeats as substrates for **transglutaminase**-catalyzed cross-linking: relevance to diseases of the nervous system.
CM Comment in: Proc Natl Acad Sci U S A. 1996 Dec 10;93(25):14310-3
AU Kahlem P; Terre C; Green H; Djian P
CS Centre National de la Recherche Scientifique, Centre de Recherche sur l'Endocrinologie Moleculaire et le Developpement, Meudon-Bellevue, France.
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, **(1996 Dec 10)** 93 (25) 14580-5.
Journal code: 7505876. ISSN: 0027-8424.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199701
ED Entered STN: 19970128
Last Updated on STN: 19980206
Entered Medline: 19970115
AB Many proteins contain reiterated glutamine residues, but **polyglutamine** of excessive length may result in human disease by conferring new properties on the protein containing it. One established property of a glutamine residue, depending on the nature of the flanking residues, is its ability to act as an amine acceptor in a **transglutaminase**-catalyzed reaction and to make a glutamyl-lysine cross-link with a neighboring polypeptide. To learn whether glutamine repeats can act as amine acceptors, we have made peptides with variable lengths of **polyglutamine** flanked by the adjacent amino acid residues in the proteins associated with **spinocerebellar ataxia** type 1 (SCA1), Machado-Joseph disease (SCA3), or dentato-rubral **pallidoluysian atrophy** (DRPLA) or those residues adjacent to the preferred cross-linking site of involucrin, or solely by arginine residues. The **polyglutamine** was found to

confer excellent substrate properties on any soluble peptide; under optimal conditions, virtually all the glutamine residues acted as amine acceptors in the reaction with glycine ethyl-ester, and lengthening the sequence of **polyglutamine** increased the reactivity of each glutamine residue. In the presence of **transglutaminase**, peptides containing **polyglutamine** formed insoluble aggregates with the proteins of brain extracts and these aggregates contained glutamyl-lysine cross-links. Repeated glutamine residues exposed on the surface of a neuronal protein should form cross-linked aggregates in the presence of any **transglutaminase** activated by the presence of Ca2+.

CT Check Tags: Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Amino Acid Sequence
Binding Sites: GE, genetics
Cross-Linking Reagents
Glutamine: GE, genetics
*Glutamine: ME, metabolism
Molecular Sequence Data
***Nervous System Diseases: ME, metabolism**
Peptides: GE, genetics
Peptides: ME, metabolism
Repetitive Sequences, Nucleic Acid
Substrate Specificity
***Transglutaminases: ME, metabolism**

RN 56-85-9 (Glutamine)

CN 0 (Cross-Linking Reagents); 0 (Peptides); EC 2.3.2.13 (**Transglutaminases**)

L159 ANSWER 13 OF 14 MEDLINE

AN 97085555 MEDLINE

DN 97085555 PubMed ID: 8931689

TI **Transglutaminase** activity is related to **CAG** repeat length in patients with **Huntington**'s disease.

AU Cariello L; de Cristofaro T; Zanetti L; Cuomo T; Di Maio L; Campanella G; Rinaldi S; Zanetti P; Di Lauro R; Varrone S

CS Laboratorio di Biochimica e Biologia Molecolare, Stazione Zoologica Anton Dohrn, Naples, Italy.

SO HUMAN GENETICS, **(1996 Dec)** 98 (6) 633-5.
Journal code: 7613873. ISSN: 0340-6717.

CY GERMANY: Germany, Federal Republic of

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199701

ED Entered STN: 19970128
Last Updated on STN: 20000303
Entered Medline: 19970106

AB **Huntington**'s disease (HD) is a neurodegenerative disorder associated with **CAG** repeat expansion. We measured **transglutaminase** (TGase) activity in lymphocytes from 35 HD patients and from healthy individuals to ascertain whether it was altered in this condition. TGase activity was above maximum control levels in 25% of HD patients; it was correlated with the age of the patient and inversely correlated with the **CAG** repeat length. These results suggest that: (1) HD could be biochemically heterogeneous, and (2) the length of the **CAG** repeat expansion/TGase ratio could be important in the manifestation of HD.

CT Check Tags: Female; Human; Male
Adult
Age of Onset
Aged
Huntington Disease: EN, enzymology
***Huntington Disease: GE, genetics**
Lymphocytes: EN, enzymology

Middle Age
Repetitive Sequences, Nucleic Acid
***Transglutaminases: GE, genetics**
Transglutaminases: ME, metabolism
CN EC 2.3.2.13 (**Transglutaminases**)

L159 ANSWER 14 OF 14 MEDLINE
AN 94320636 MEDLINE
DN 94320636 PubMed ID: 7913896
TI Cross-linking of beta-amyloid protein precursor catalyzed by tissue **transglutaminase.**
AU Ho G J; Gregory E J; Smirnova I V; Zoubine M N; Festoff B W
CS Neurobiology Research Laboratory (151R), VA Medical Center, Kansas City, MO 64128.
SO FEBS LETTERS, **(1994 Jul 25)** 349 (1) 151-4.
Journal code: 0155157. ISSN: 0014-5793.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199409
ED Entered STN: 19940909
Last Updated on STN: 19980206
Entered Medline: 19940901
AB Alzheimer's disease is characterized by progressive dementia, cortical **atrophy** with synaptic loss, and the accumulation of neurofibrillary tangles and senile plaques containing beta-amyloid. The beta-amyloid protein precursor (beta-APP), may normally be involved in cell adhesion related to synaptic maintenance. Loss of synapses correlates with dementia, suggesting that synaptic deficits may underlie the disease. Synapse stability may depend on the action of tissue **transglutaminase** (tTG), an enzyme capable of crosslinking large, multi-domain extracellular glycoproteins, that is active and present at synapses. We now show that beta-APP is a substrate for tTG in vitro that results in dimers and multimers by silver staining and immunoblotting. This novel post-translational modification suggests further roles for beta-APP in synaptic function as well as in Alzheimer's disease.
CT Check Tags: Animal; Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.
Alzheimer Disease: ME, metabolism
Amyloid beta-Protein Precursor: GE, genetics
*Amyloid beta-Protein Precursor: ME, metabolism
Cross-Linking Reagents
Guinea Pigs
Liver: EN, enzymology
Recombinant Proteins: ME, metabolism
***Transglutaminases: ME, metabolism**
CN 0 (Amyloid beta-Protein Precursor); 0 (Cross-Linking Reagents); 0 (Recombinant Proteins); EC 2.3.2.13 (**Transglutaminases**)

=> d his

(FILE 'REGISTRY' ENTERED AT 15:25:25 ON 31 MAR 2003)
DEL HIS
E TRANSGLUTAMINASE/CN
L1 3 S E3
E TRANSGLUTAMINASE
L2 139 S E3
L3 136 S L2 NOT L1

FILE 'HCAPLUS' ENTERED AT 15:31:58 ON 31 MAR 2003
L4 3144 S L1

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L5          3190 S L2
L6          3720 S TRANSGLUTAMINASE OR TRANS GLUTAMINASE
L7           397 S BLOOD COAGULATION FACTOR XIIIA
L8            37 S FIBRINOLIGASE
L9           648 S FACTOR XIIIA
L10          130 S BLOOD COAGULATION FACTOR XIII(S)ACTIVAT?
L11           90 S GLUTAMYLTRANSFERASE(S)GLUTAMINYLPEPTIDE(S)GAMMA
L12         4347 S L4-L11
L13           42 S MONODANSYL CADAVERINE
L14            1 S MONO DANSYL CADAVERINE
L15            3 S MONO DANSYLCADAVERINE
L16         2346 S CYSTAMINE
L17         9513 S PUTRESCINE
L18           22 S GAMMA () (AMINOBENZOIC OR AMINO BENZOIC) () ACID
L19         3269 S N()(BENZYLOXYCARBONYL OR BENZYLOXY CARBONYL OR BENZYL ()(OXYC
L20            0 S DEAZO(S)OXONORVALINE(S)NITROPHENYL(S)ESTER
L21         1735 S GLYCINE METHYL ESTER
L22         4531 S TOLBUTAMIDE
                 E WO9965516/PN
L23        50753 S CUSO4 OR (CU OR COPPER OR CUPRIC)()(SULFATE OR SULPHATE)
L24            1 S E3
                 E STEINMAN L/AU
L25          199 S E3,E4
                 E KARPUJ M/AU
L26           11 S E4-E7
                 E YEDA/PA,CS
L27          726 S E3-E53
L28           10 S L25-L27 AND L12
L29            5 S L24,L28 AND P/DT

     FILE 'REGISTRY' ENTERED AT 15:47:03 ON 31 MAR 2003
L30            6 S 10121-91-2 OR 51-85-4 OR 110-60-1 OR 616-34-2 OR 7758-98-7 OR
L31           45 S 7664-93-9/CRN AND CU/ELS AND 2/NC
L32           37 S L31 AND NR>=1
L33            8 S L31 NOT L32
L34            6 S L33 NOT MNS/CI
L35            1 S 150-13-0
L36            1 S 74389-76-7
L37           13 S L30,L34-L36

     FILE 'HCAPLUS' ENTERED AT 15:49:50 ON 31 MAR 2003
L38        41032 S L37
L39         9646 S (4 OR P OR PARA) () (AMINOBENZOIC OR AMINO BENZOIC) () ACID
L40          312 S DANSYLCADAVERINE OR DANSYL CADAVERINE
L41        91631 S L13-L23,L38-L40
L42          513 S L41 AND L12
L43            4 S L42 AND L28
L44            6 S L28 NOT L43
L45           94 S POLYQ OR POLY Q
L46            2 S L42 AND L45
L47         1016 S POLYGLUTAMINE OR POLY GLUTAMINE

     FILE 'REGISTRY' ENTERED AT 15:55:22 ON 31 MAR 2003
                 E POLYGLUTAMINE/CN
L48            2 S E3
L49            3 S (L-GLUTAMINE OR D-GLUTAMINE OR DL-GLUTAMINE)/CN
                 SEL RN
L50           42 S E1-E3/CRN AND PMS/CI
L51           42 S L50 AND C5H10N2O3
L52            3 S L51 AND 1/NC
                 E (C5H8N2O2)N/MF
L53           12 S E3
                 SEL RN 1 4 8
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L54           3 S E1-E3
L55           6 S L48,L52,L54

     FILE 'HCAPLUS' ENTERED AT 15:57:49 ON 31 MAR 2003
L56         514 S L55
L57         206 S POLY(1W)GLUTAMINE
L58           6 S L56,L57,L47 AND L42
                E AGGREGAT/CT
                E E18+ALL
L59           3 S E2+NT AND L42
                E HUNTINGTON/CT
                E E7+ALL
L60           9 S L42 AND HUNTINGT?
L61           1 S SPINOBULBAR? AND L42
L62           2 S SPINOCEREBEL? AND L42
L63           4 S DENTATORUBRAL? AND L42
L64           8 S (ATROPH? OR ATAXI? OR NEURODEGEN?) AND L42
L65          15 S L46,L58-L64
L66          22 S L43,L44,L65
L67          12 S L66 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L68           4 S L42 AND ?PALLIDOL?
L69           4 S L42 AND CAG
L70           4 S L68,L69 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L71          12 S L67,L70
                SEL DN AN 1 3 4 5 6 10 11
L72           5 S L71 NOT E1-E21
L73           7 S L71 NOT L72
L74           1 S L73 AND CAG
L75           6 S L72,L74
                E ANTISENSE/CT
                E E4+ALL
L76        3549 S E6,E5
                E E7+ALL
L77        7190 S E9+NT
L78          14 S L76,L77 AND L12
L79           4 S L78 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L80           1 S L79 NOT (PROSTATE OR RETINOID)
L81           6 S L75,L80
                E GENE THERAPY/CT
                E E3+ALL
L82       23351 S E5,E4+NT
L83          34 S L82 AND L12
L84          15 S L83 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L85          16 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND (RECEPTOR(L)M
L86           1 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND TRANSKARYOT?(
L87           0 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND (VIRAL? OR VI
L88           2 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND RETROVIR?(L)(
L89          11 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND RETROVIR?
L90          72 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND (SHUTTL? OR V
L91          14 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998) AND ?LIPOSOM?
L92         108 S L84-L91
L93          31 S L92 AND (PHARMACOL? OR PHARMACEUT?)/SC,SX
                E DRUG DELIVERY/CT
L94           9 S E6+NT AND L92
L95          21 S L93,L94 AND L4
L96          19 S L95 NOT PROSTAT?
                SEL DN AN 3-5
L97           3 S E1-E9
L98           8 S L81,L97 AND L4-L29,L38-L47,L56-L97
                E NERVOUS SYSTEM/CT
                E E3+ALL
L99      274842 S E4,E3+NT
                E E118+ALL
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L100      43692 S E2+NT
                E E11+ALL
L101      89493 S E1+NT
L102        249 S L12 AND L99-L101
L103         45 S L12 AND NEURODEGEN?
L104        135 S L102,L103 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L105         16 S L104 AND (1 OR 63)/SC
L106          9 S L104 AND (1 OR 63)/SX
L107         23 S L105,L106
L108         21 S L107 NOT L98
L109          2 S L98 AND L107
L110          8 S L98,L109
L111          1 S L110 AND TISSUE
L112          8 S L110,L111
                SEL HIT RN

     FILE 'REGISTRY' ENTERED AT 16:28:10 ON 31 MAR 2003
L113         13 S E1-E13

     FILE 'REGISTRY' ENTERED AT 16:28:26 ON 31 MAR 2003

     FILE 'HCAPLUS' ENTERED AT 16:29:14 ON 31 MAR 2003

     FILE 'WPIX' ENTERED AT 16:29:30 ON 31 MAR 2003
L114        575 S L6/BIX
                E STEINMAN L/AU
L115         17 S E3,E4
L116          1 S L114 AND L115
L117          9 S L13/BIX OR L14/BIX OR L15/BIX OR L40/BIX
L118        409 S L16/BIX OR L17/BIX
L119        993 S L18/BIX OR L39/BIX
L120        179 S L21/BIX OR L22/BIX
L121       6293 S L23/BIX
L122        376 S L19/BIX
L123         13 S L114 AND L117-L122
L124         25 S L114 AND  (B04-E06 OR C04-E06 OR B04-B04A1 OR C04-B04A1 OR B1
L125         12 S L114 AND (B14-J01? OR C14-J01? OR B12-C06 OR C12-C06 OR B12-C
L126         18 S L114 AND (B14-D06 OR C14-D06 OR B12-G01B2 OR C12-G01B2)/MC
L127          8 S L126 AND L123-L125
L128          3 S L114 AND (CAG OR CYTOSIN? ADENIN? GUANIN? OR POLYQ OR POLY Q
L129          9 S L114 AND (?HUNTINGT? OR ?SPINOBULBAR? OR ?SPINOCEREBEL? OR ?A
L130         15 S L127-L129,L116
L131         42 S L123-L129 NOT L130
                SEL DN AN 25 33
L132          2 S L131 AND E1-E4
L133         17 S L130,L132 AND L114-L132

     FILE 'WPIX' ENTERED AT 16:49:42 ON 31 MAR 2003

     FILE 'MEDLINE' ENTERED AT 16:50:48 ON 31 MAR 2003
L134       3214 S L6
L135       2206 S L134 AND PY<=1998
L136         66 S L135 AND C10./CT
L137         19 S L135 AND (?HUNTINGT? OR ?SPINOBULBAR? OR ?SPINOCEREBEL? OR ?A
L138         11 S L135 AND (CAG OR CYTOSIN? ADENIN? GUANIN? OR POLYQ OR POLY Q
L139         23 S L137,L138
L140         10 S L136 AND L139
L141         13 S L139 NOT L140
                SEL DN AN 2 6
L142          2 S L141 AND E5-E10
L143         12 S L140,L142

     FILE 'MEDLINE' ENTERED AT 16:55:25 ON 31 MAR 2003
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L144	356	S	L41 AND L135
L145	10	S	L144 AND L136-L143
L146	7	S	L145 NOT L143
L147	3	S	L143 AND L145
L148	250	S	L13-L15,L40
L149	107	S	L148 AND L135
L150	152	S	(TRANSGLUTAMINASES(L)AI)/CT
L151	10	S	L150 AND L149
			SEL DN AN 1
L152	1	S	E11-E13
L153	50	S	L150 AND L144
L154	12	S	L143,L147,L152
L155	49	S	L153 NOT L154
		E	GENE THERAPY/CT
		E	E3+ALL
L156	15062	S	E8+NT
		E	ANTISENSE DNA/CT
		E	E3+ALL
		E	E2+ALL
L157	2071	S	E22+NT
L158	2	S	L156,L157 AND L135
L159	14	S	L154,L158 AND L134-L158